

Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Schedule 4). Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges — [both available on the Council's web page](#).

1. Pre-Lodgement Meeting

Have you met with a council Resource Consent representative to discuss this application prior to lodgement? Yes No

2. Type of Consent being applied for

(more than one circle can be ticked):

- Land Use Discharge
 Fast Track Land Use* Change of Consent Notice (s.221(3))
 Subdivision Extension of time (s.125)
 Consent under National Environmental Standard
(e.g. Assessing and Managing Contaminants in Soil)
 Other (please specify) _____

* *The fast track is for simple land use consents and is restricted to consents with a controlled activity status.*

3. Would you like to opt out of the Fast Track Process?

Yes No

4. Consultation

Have you consulted with Iwi/Hapū? Yes No

If yes, which groups have you consulted with?

Who else have you consulted with?

For any questions or information regarding iwi/hapū consultation, please contact Te Hono at Far North District Council tehonosupport@fndc.govt.nz

5. Applicant Details

Name/s:

Sielia Limited

Email:

Phone number:

Postal address:

(or alternative method of service under section 352 of the act)

6. Address for Correspondence

Name and address for service and correspondence (if using an Agent write their details here)

Name/s:

Steven Sanson - Bay of Islands Planning

Email:

Phone number:

Postal address:

(or alternative method of service under section 352 of the act)

** All correspondence will be sent by email in the first instance. Please advise us if you would prefer an alternative means of communication.*

7. Details of Property Owner/s and Occupier/s

Name and Address of the Owner/Occupiers of the land to which this application relates (where there are multiple owners or occupiers please list on a separate sheet if required)

Name/s:

Refer 5 above

**Property Address/
Location:**

Postcode _____

8. Application Site Details

Location and/or property street address of the proposed activity:

Name/s:	Refer 5 above	
Site Address/ Location:	154 Te Raupo Road,	
	Opua	
		<u>Postcode</u>
Legal Description:	Lot 1 DP 604018 and Allotment 27	Val Number:
Certificate of title:	1182447	

Please remember to attach a copy of your Certificate of Title to the application, along with relevant consent notices and/or easements and encumbrances (search copy must be less than 6 months old)

Site visit requirements:

Is there a locked gate or security system restricting access by Council staff? Yes No

Is there a dog on the property? Yes No

Please provide details of any other entry restrictions that Council staff should be aware of, e.g. health and safety, caretaker's details. This is important to avoid a wasted trip and having to re-arrange a second visit.

Please call applicant prior to site visit

9. Description of the Proposal:

Please enter a brief description of the proposal here. Please refer to Chapter 4 of the District Plan, and Guidance Notes, for further details of information requirements.

Proposed subdivision in the General Coastal Zone with associated land use breaches

If this is an application for a Change or Cancellation of Consent Notice conditions (s.221(3)), please quote relevant existing Resource Consents and Consent Notice identifiers and provide details of the change(s), with reasons for requesting them.

10. Would you like to request Public Notification?

Yes No

11. Other Consent required/being applied for under different legislation

(more than one circle can be ticked):

- Building Consent
- Regional Council Consent (ref # if known)
- National Environmental Standard consent
- Other (please specify)

12. National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health:

The site and proposal may be subject to the above NES. In order to determine whether regard needs to be had to the NES please answer the following:

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL) Yes No Don't know

Is the proposed activity an activity covered by the NES? Please tick if any of the following apply to your proposal, as the NESCS may apply as a result. Yes No Don't know

- Subdividing land
- Changing the use of a piece of land
- Disturbing, removing or sampling soil
- Removing or replacing a fuel storage system

13. Assessment of Environmental Effects:

Every application for resource consent must be accompanied by an Assessment of Environmental Effects (AEE). This is a requirement of Schedule 4 of the Resource Management Act 1991 and an application can be rejected if an adequate AEE is not provided. The information in an AEE must be specified in sufficient detail to satisfy the purpose for which it is required. Your AEE may include additional information such as Written Approvals from adjoining property owners, or affected parties.

Your AEE is attached to this application Yes

13. Draft Conditions:

Do you wish to see the draft conditions prior to the release of the resource consent decision? Yes No

If yes, do you agree to extend the processing timeframe pursuant to Section 37 of the Resource Management Act by 5 working days? Yes No

14. Billing Details:

This identifies the person or entity that will be responsible for paying any invoices or receiving any refunds associated with processing this resource consent. Please also refer to Council's Fees and Charges Schedule.

Name/s: (please write in full)

Email:

Phone number:

Work

Home

Postal address:

(or alternative method of service under section 352 of the act)

Postcode

Fees Information

An instalment fee for processing this application is payable at the time of lodgement and must accompany your application in order for it to be lodged. Please note that if the instalment fee is insufficient to cover the actual and reasonable costs of work undertaken to process the application you will be required to pay any additional costs. Invoiced amounts are payable by the 20th of the month following invoice date. You may also be required to make additional payments if your application requires notification.

Declaration concerning Payment of Fees

I/we understand that the Council may charge me/us for all costs actually and reasonably incurred in processing this application. Subject to my/our rights under Sections 357B and 358 of the RMA, to object to any costs, I/we undertake to pay all and future processing costs incurred by the Council. Without limiting the Far North District Council's legal rights if any steps (including the use of debt collection agencies) are necessary to recover unpaid processing costs I/we agree to pay all costs of recovering those processing costs. If this application is made on behalf of a trust (private or family), a society (incorporated or unincorporated) or a company in signing this application I/we are binding the trust, society or company to pay all the above costs and guaranteeing to pay all the above costs in my/our personal capacity.

Name: (please write in full)

Signature:

(signature of bill payer)

Date

MANDATORY

15. Important Information:

Note to applicant

You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.

You may apply for 2 or more resource consents that are needed for the same activity on the same form. You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

Fast-track application

Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement. A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

Privacy Information:

Once this application is lodged with the Council it becomes public information. Please advise Council if there is sensitive information in the proposal. The information you have provided on this form is required so that your application for consent pursuant to the Resource Management Act 1991 can be processed under that Act. The information will be stored on a public register and held by the Far North District Council. The details of your application may also be made available to the public on the Council's website, www.fndc.govt.nz. These details are collected to inform the general public and community groups about all consents which have been issued through the Far North District Council.

15. Important information continued...

Declaration

The information I have supplied with this application is true and complete to the best of my knowledge.

Name: (please write in full)

Steven Sanson

Signature:

[Redacted Signature]

Date 12-Dec-2024

A signature is not required if the application is made by electronic means

Checklist (please tick if information is provided)

- Payment (cheques payable to Far North District Council)
- A current Certificate of Title (Search Copy not more than 6 months old)
- Details of your consultation with Iwi and hapū
- Copies of any listed encumbrances, easements and/or consent notices relevant to the application
- Applicant / Agent / Property Owner / Bill Payer details provided
- Location of property and description of proposal
- Assessment of Environmental Effects
- Written Approvals / correspondence from consulted parties
- Reports from technical experts (if required)
- Copies of other relevant consents associated with this application
- Location and Site plans (land use) AND/OR
- Location and Scheme Plan (subdivision)
- Elevations / Floor plans
- Topographical / contour plans

Please refer to Chapter 4 of the District Plan for details of the information that must be provided with an application. Please also refer to the RC Checklist available on the Council's website. This contains more helpful hints as to what information needs to be shown on plans.

14. Billing Details:

This identifies the person or entity that will be responsible for paying any invoices or receiving any refunds associated with processing this resource consent. Please also refer to Council's Fees and Charges Schedule.

Name/s: (please write in full) Sielia Ltd

Email:

Phone number:

Postal address:

(or alternative method of service under section 352 of the act)

Fees Information

An instalment fee for processing this application is payable at the time of lodgement and must accompany your application in order for it to be lodged. Please note that if the instalment fee is insufficient to cover the actual and reasonable costs of work undertaken to process the application you will be required to pay any additional costs. Invoiced amounts are payable by the 20th of the month following invoice date. You may also be required to make additional payments if your application requires notification.

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Name: (please write in full)

Stephen Mason

Signature:

(signature of bill payer)

Date 12-Dec-2024

MANDATORY

15. Important Information:

Note to applicant

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BAY OF ISLANDS PLANNING (2022) LIMITED

Kerikeri House

Suite 3, 88 Kerikeri Road, Kerikeri

Email – office@bayplan.co.nz Website - www.bayplan.co.nz

18 December 2024

Application for Resource Consent – Proposed Subdivision Te Raupo Road, Opua

Please find below a resource consent application to undertake a 3 lot subdivision within the General Coastal Zone of the Operative District Plan [**ODP**].

Under the Far North District Council Proposed District Plan [**PDP**] the property is zoned Rural Production with a Coastal Environment overlay and various other features.

Overall, the application is a **Non-Complying Activity**.

Consents are also required under the PDP as a **Discretionary Activity**.

Should you require any further information please do not hesitate to contact me.

Yours sincerely,



Steven Sanson
Consultant Planner

SITE DETAILS

Applicant	Sielia Limited
Address for Service	Bay of Islands Planning Limited PO Box 318 PAIHIA 0247 C/O - Steven Sanson steve@bayplan.co.nz 021-160-6035
Legal Description	Lot 1 DP 604018 and Allotment 271 Parish of Kawakawa
Record Of Title [RoT]	1182447
Physical Address	154 Te Raupo Road, Opua
Site Area	21.2147ha
Owner of the Site	Sielia Limited
District Plan Zone	General Coastal [ODP] Rural Production [PDP]
District Plan Features	MS10-90 Te Raupo / Pumuka's Pa [ODP & PDP] Coastal Environment [PDP] HNC 505 [PDP] Coastal & River Flood Hazard [PDP]
NRC RPS Overlays	Refer PDP Overlays Above
Soils	Class 6
Flora / Fauna	PNA Opua Forest P0-5058 Kiwi Present Marginal Strip – Kawakawa River DoC
HAIL	Nil
Wetlands	Yes – Refer map figures below an Ecological Report

Schedule 1

1.0 INTRODUCTION & PROPOSAL

1.1 Report Requirements

1. This report has been prepared for Sielia Limited in support of a combined subdivision and land use consent application at Te Raupo Road, Opuā.
2. The application has been prepared in accordance with the provisions of Section 88 and the Fourth Schedule of the Resource Management Act 1991. This report serves as the Assessment of Environmental Effects required under both provisions.
3. The report also includes an analysis of the relevant provisions of the Far North District Plan [Operative and Proposed], relevant National Policy Statements and Environmental Standards, Regional Planning Documents as well as Part 2 of the Resource Management Act 1991.

1.2 Proposal

4. A range of details regarding the site are outlined in Schedule 1 of this Report. These details are supplemented by the Record of Title and relevant instruments located in **Appendix 1**.
5. Subdivision Consent: The proposal includes the subdivision of the site [RoT 1182447] into three allotments as follows:

Lot 1: 8.5320ha
Lot 2: 5.5458ha
Lot 3: 7.1369ha
6. The proposed scheme plan is provided in **Appendix 2**. New easements are promoted to offer access, power and telecommunications. The three lots are all in the General Coastal Zone.
7. For administrative simplicity, it is proposed to cancel the current consent notice conditions found in 13026543.4 as they relate to the current site and then replace them with new consent notice conditions for each title, taking into account the detailed information provided in this application [i.e updated and site specific engineering reports].
8. The allotment sizes proposed would render the subdivision as a **Non-Complying Activity**.

9. **Land Use Consent:** In addition to the subdivision, the proposal does not comply with many land use rules found in the ODP. These are listed below:
 - 10.8.5.1.10 Transportation – Discretionary
 - 12.2.6.1.3 Indigenous Vegetation Clearance in the General Coastal Zone – Discretionary
 - 12.4.6.1.2 Fire Risk to Residential Units – Discretionary
 - 13.7.2.1[viii] Minimum Lot Size in the General Coastal Zone – Non Complying
 - 15.1.6C.1.1[a] Private Accessway in All Zones – Discretionary
 - 15.1.6C.1.8 Frontage to Existing Roads – Discretionary

10. Rules breached in the PDP include:
 - IB-R4 PER 1 Indigenous Vegetation Clearance and Any Associated Land Disturbance Outside a Significant Natural Area – Discretionary
 - SUB-R15 Subdivision of a Site Containing a Scheduled Site and Area of Significance to Maori – Restricted Discretionary

11. To support the proposal, the application includes a Geotechnical Report prepared by Wilton Joubert Limited [**WJL**]. WJL have also prepared a Civil Site Suitability Report. These are both found in **Appendix 3**. These reports set out the engineering requirements for development to proceed if approved.

12. Given the coastal location of the site, the proposal is supported by a Landscape Assessment prepared by Simon Cocker Landscape Architecture [SCLA]. This is provided in **Appendix 4**. This report considers the landscape, natural character, and visual amenity effects resulting from the proposal.

13. As the site is largely covered in mixed vegetation, it was prudent to assess the proposal from an ecological perspective. An Ecological Impact Assessment has been prepared by Bay Ecological Consultancy Limited [BECL]. This is provided in **Appendix 5**.

14. To ensure that the proposal is compliant with heritage regulations, an Archaeological Report has been prepared by Geometria Limited. This is provided in **Appendix 6**.

15. The proposal has also been considered in terms of traffic and access effects. Engineering Outcomes Limited has prepared a Traffic Effects Assessment, and this is found in **Appendix 7**.

16. The applicant has received written approvals, and these are provided in **Appendix 8**.

17. Proposal Rationale: The proposal has been developed in accordance with the Management Plan provisions of Chapter 13, however it is not proposed to proceed the application on that basis.
18. The Management Plan approach often requires a central body to manage common areas, infrastructure and deliver environmental goals. In this instance, it is not considered a necessary component to meet enhancement objectives whilst enabling density in this location. This is because the proposed protection theme is to protect everything outside of building platforms and access areas.
19. This approach is therefore, different to other management plan type subdivisions where common areas are managed as farm areas where owners ‘chip in’ for common management. In this instance, the same or better environmental outcomes can be delivered without the management bureaucracy and administration.
20. Therefore, the proposal has been developed on a 6ha average lot basis across the total subdivision which accords with the density control for the General Coastal Zone [as a Management Plan Subdivision].
21. There are defined areas set aside for development, whilst protecting and enhancing the balance of those areas in perpetuity by way of environmental covenants. Power and telecoms are ‘off-grid’ in order to maintain amenity and landscape values.
22. Given the broad cover of vegetation, the site is unique in that it doesn’t require large-scale improvements, rather localised and specific management controls which can be undertaken on a site by site basis. This includes the management of pest and weeds for each allotment as well as an overarching protective covenant. This ensures that the majority of the site is protected and enhanced in the long term.
23. Each site can be appropriately serviced with power, telecoms, and three waters infrastructure without imparting off-site effects. Building envelopes have been considered in terms of land stability, landscape effects, and ecological matters. These all consider the envelopes as being appropriate for each allotment.
24. Further works within the subdivision are not envisaged to affect the SASM or the archaeological sites found.
25. In terms of future built development, whilst generous building platforms are proposed at 900m² each [30m x 30m], the General Coastal Zone or mix of Rural Production Zone / Coastal Environment Overlay will be best placed to manage this aspect.

26. Development will also need to comply with the proposed landscape treatment and mitigation measures offered. The proposal further diminishes the extent of the building platform by prioritising development within certain 'Zones'.
27. In this sense, there is complete confidence by Council that design of future development will meet appropriate and site specific controls and have the opportunity to review [by way of resource consent] site specific development proposals for each lot.

2.0 DESCRIPTION OF THE SITE & SURROUNDS

28. The various supporting reports provide detailed descriptions of the site based on the specific aspect being assessed.
29. From a planning perspective, the following Figures which relate to Schedule 1 provide an understanding of the site.



Figure 1 – Site Aerial [Source: Prover]

30. The site contains existing access from Te Raupo Road which comes off State Highway 11. The access traverses' part of the Cycle Trail which is adjacent to the site. The site contains existing internal access which serves two other users to the northeast. The site is largely covered in vegetation; however Lot 3 contains existing development - a non-habitable shed consented under RC 2300045.



Figure 2 – Site Topo [Source: Prover]

31. The topography of the site is as shown in Figure 2. Roading has followed the contours appropriately to allow internal access.



Figure 3 – Zoning [Source: Far North Maps]

32. The site is zoned General Coastal. It is adjoined to the west by legal road being the Cycle Trail and along the 'Kings Chain' which is a mixture of Marginal Strip owned by the Department of Conservation [DoC] zoned Conservation and road reserve.

33. The site has 'kiwi present' and forms part of the Opua Forest – P05058.

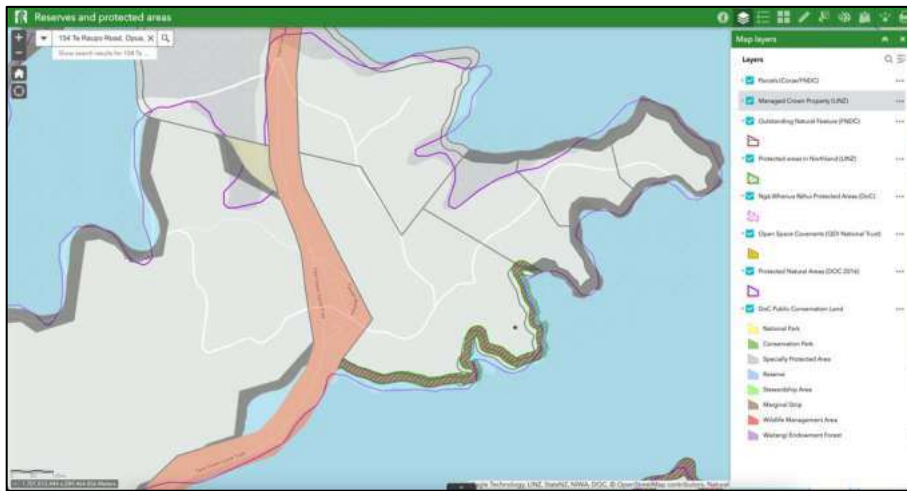


Figure 4 – Reserves & Protected Areas [Source: Far North Maps]

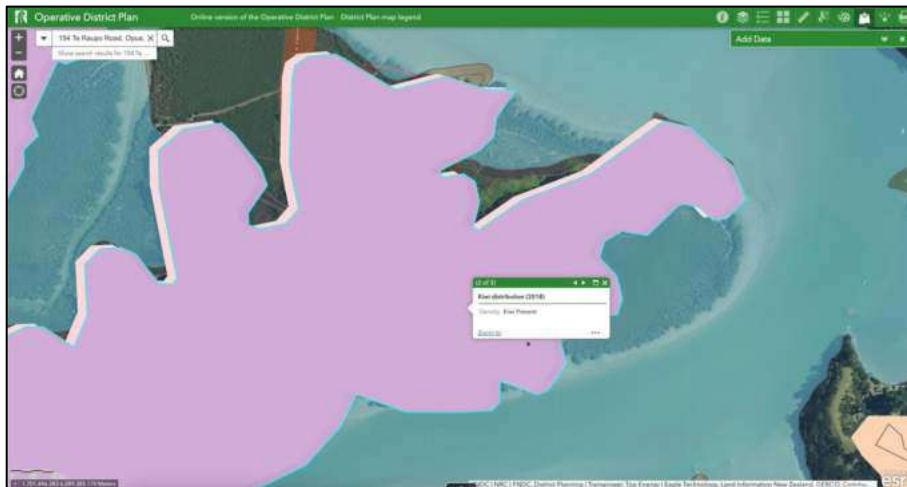


Figure 5 – Kiwi Present Areas [Source: Far North Maps]

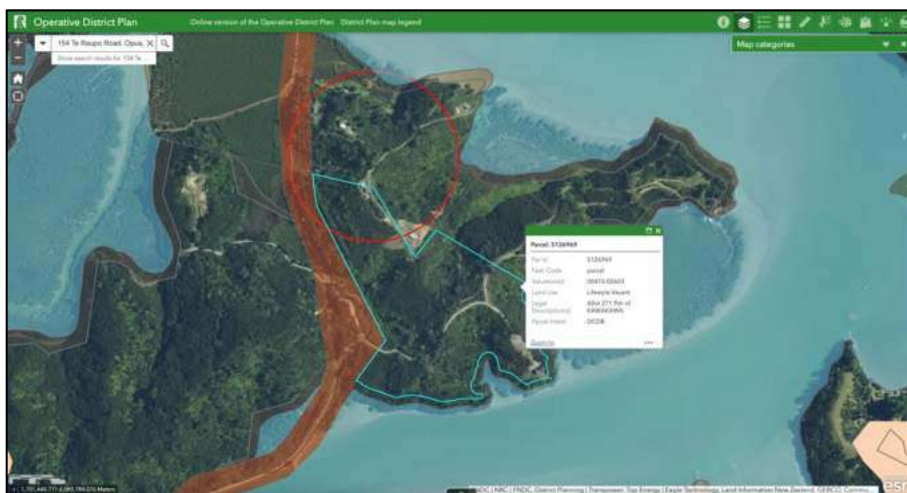


Figure 6 – Resource Features [Source: Far North Maps]

34. MS10-09 Te Raupo / Pumuka’s Pa & Wahi Tapu is overlain across the northern part of the site. It is interesting to note that despite the attribution, development has occurred within and adjacent to MS10-09 in the form of what appears to be tracks and residential development.

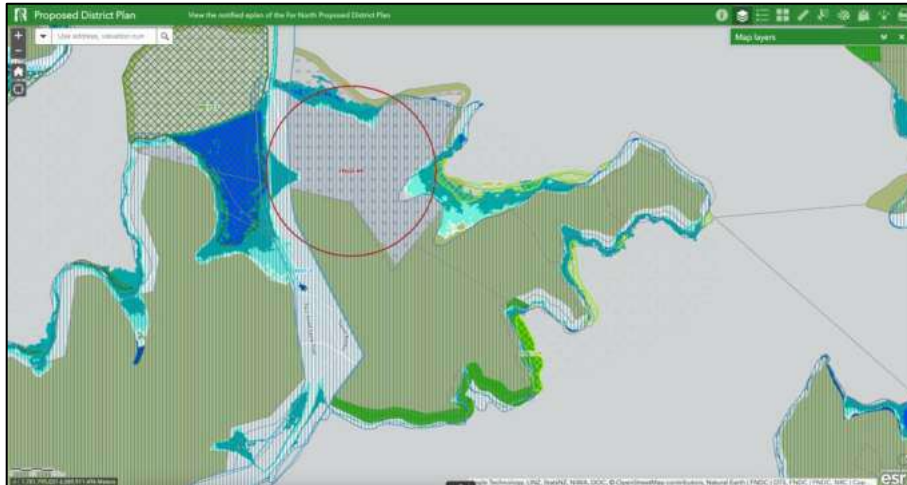


Figure 7 – Proposed District Plan [Source: Far North Maps]

35. Under the PDP, the site is in the Rural Production Zone, the Coastal Environment, and remains overlain by MS10-09. In addition, small components of the site are overlain by flood hazards and high natural character areas.
36. Northland Regional Council [NRC] maps show known wetlands on the site and surrounds. The site is not near or known as having an activity located on the hazardous activities or industries list [HAIL].
37. Soils for the site are known to be Class 6. NRC has also mapped the site as containing flood hazards. Refer to the figures below.

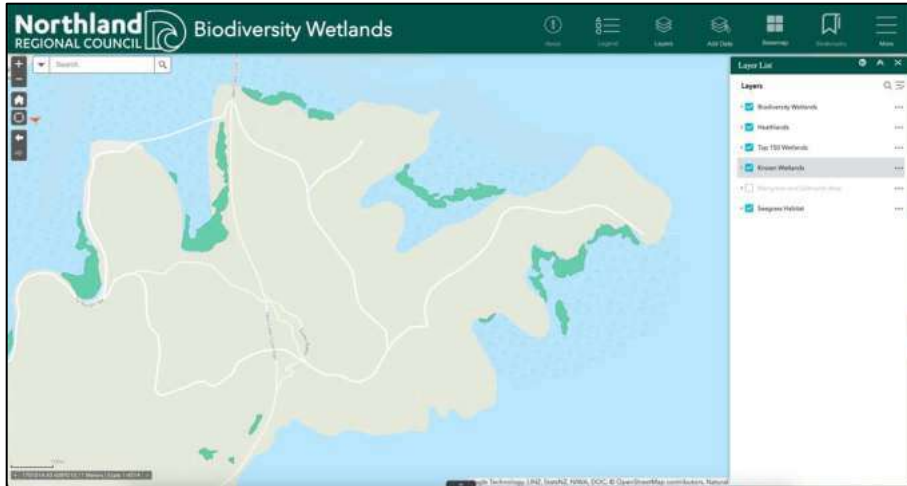


Figure 8 – Mapped Wetlands [Source: NRC Local Maps]

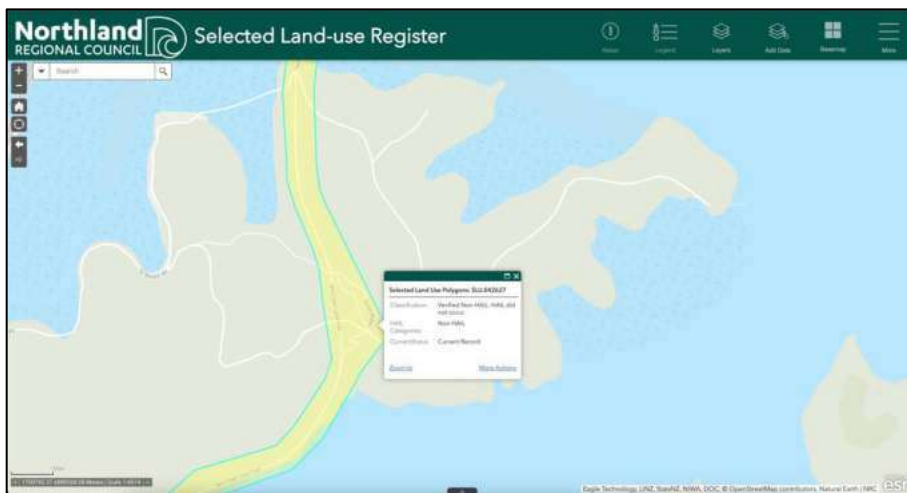


Figure 9 – Selected Land Use Register [Source: NRC Local Maps]

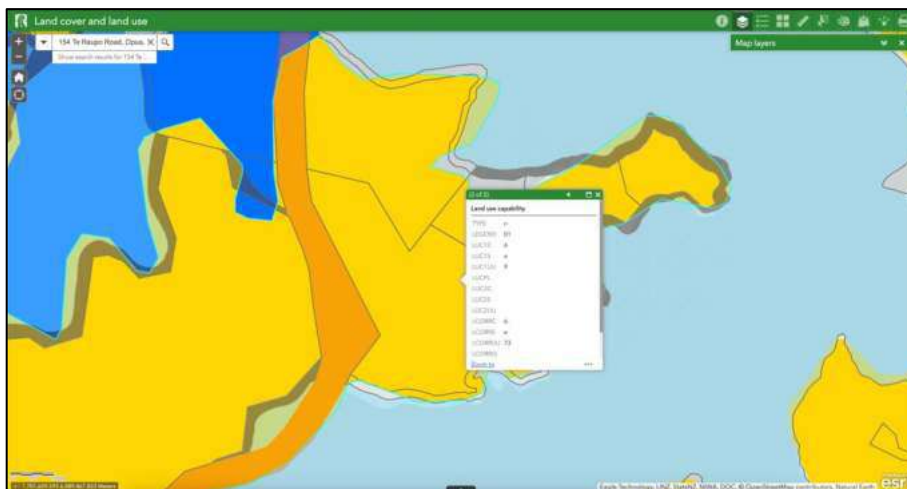


Figure 10 – Selected Land Use Register [Source: Far North Maps]



Figure 10 – Natural Hazards [Source: NRC Local Maps]

3.0 RECORD OF TITLE, CONSENT NOTICES AND LAND COVENANTS

38. The Record of Title is attached at **Appendix 1**. There are existing consent notices applicable to the overall site. This relates to the provision of power and telecoms, the management of cats and dogs, and geotechnical, wastewater, and water requirements at time of building consent.

39. It is envisaged that many of these consent notices could carry over onto the new titles proposed, however as there are new reports to consider in terms of geotechnical, water and wastewater matters, it appears easier to apply to cancel all of these as they relate to the overall site and replace them with new consent notices that link to the current proposal and supplementary reports.

4.0 RESOURCE CONSENT REQUIREMENTS

40. The relevant zoning, resource features, and other critical information required to determine the consenting requirements for the proposal have been considered above.

41. **Tables** below provides an assessment against the relevant ODP and PDP standards and identifies the reasons for resource consent.

Table 1 – General Coastal Zone

Rule	Assessment
Rule 10.6.5.1.1 Visual Amenity	There are no buildings proposed at this stage. Complies
Rule 10.6.5.1.2 Residential Intensity	Following subdivision, each allotment will have provision for 1 x house.

	Complies
Rule 10.6.5.1.3 Scale of Activities	Not applicable as residential end use proposed. Complies
Rule 10.6.5.1.4 Building Height	No buildings are proposed. Complies
Rule 10.6.5.1.5 Sunlight	No buildings are proposed. Complies
Rule 10.6.5.1.6 Stormwater Management	No buildings are proposed. Existing buildings and surfaces do not exceed 10% per lot. Complies
Rule 10.6.5.1.7 Setback from Boundaries	No buildings are proposed. Complies
Rule 10.6.5.1.9 Keeping of Animals	Not applicable Complies
10.8.5.1.10 Transportation	See below Consent Required – Discretionary Activity
Rule 10.6.5.1.9 Noise	To be complied with as a residential dwelling. Complies
Rule 10.6.5.1.11 Helicopter Landing	Not applicable Complies

Table 2 – District Wide Rules

Rule	Assessment
12.1 Landscapes & Natural Features	Not relevant. Complies
12.2 Indigenous Flora & Fauna	1,800m ² of vegetation clearance is required to give effect to the 2 x proposed building envelopes on the site.

	<p>This does not comply with 12.2.6.1.3.</p> <p>Discretionary Activity</p>
12.3 Soils & Minerals	<p>At time of development on each allotment, the permitted standard for cut / fill and retaining walls will need to be considered.</p> <p>Complies</p>
12.4 Natural Hazards	<p>Building envelopes are proposed to be cleared and then replanted with areas set aside with vegetation that provide a fire buffer.</p> <p>The dwellings will likely sit within 20m of vegetation, thus requiring consent as per 12.4.6.1.2.</p> <p>Discretionary Activity</p>
12.5 Heritage	<p>There are no notable trees present on the site.</p> <p>There are no historic sites, buildings or objects relevant to the site.</p> <p>Archaeological features are present. The rule is not affected by the proposal.</p> <p>There is no proposed building, excavating, filling, planting of trees or clearance of vegetation within the Site of Cultural Significance to Maori.</p> <p>Complies</p>
12.7 Lakes, Rivers and Wetlands	<p>Setbacks from these features can be considered at time of development.</p> <p>Complies</p>
12.8 Hazardous Substances	<p>Not relevant.</p> <p>Complies</p>
12.9 Renewable Energy & Energy Efficiency	<p>Not relevant.</p> <p>Complies</p>
13 Subdivision	<p>The proposal does not comply with 13.7.2.1[viii] as the lots proposed are not more</p>

	<p>than 20ha in size and a management plan subdivision is not proposed.</p> <p>Non Complying</p> <p>Allotment dimensions are met.</p> <p>Complies</p>
14 Financial Contributions	<p>Not relevant.</p> <p>Complies</p>
15 Transportation	<p>The proposal is for 3 allotments in the General Coastal Zone. 3 x residential use is expected. This results in 30 x traffic movements.</p> <p>Complies</p> <p>Each site will be able to accommodate 2 x car parks for residential use.</p> <p>Complies</p> <p>The proposal requires consent for the following:</p> <ul style="list-style-type: none"> • 15.1.6C.1[a] – The private access from Te Raupo Road is not developed to the standards in Appendix 3B-1. • 15.1.6C.1.8 – The proposal gains access from Te Raupo Road which is not currently developed to the FNDC Engineering Standards.
16 Signs and Lighting	<p>Not relevant.</p> <p>Complies</p>
17 Designation	<p>Not relevant.</p> <p>Complies</p>
18 Special Areas	<p>Not relevant.</p> <p>Complies</p>

19 GMO's	Not relevant. Complies
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42. In terms of the Operative Plan the application falls to be considered as a **Non-Complying Activity** because of the identified breaches.

4.1 FNDC Proposed District Plan

43. These comprise relevant rules that have immediate effect under the Proposed District Plan.

Table 3 – Proposed District Plan

Rule	Assessment
Hazardous Substances	Not relevant as no such substances proposed. Complies
Heritage Area Overlays	Not indicated on Far North Proposed District Plan. Complies
Historic Heritage	Not indicated on Far North Proposed District Plan. Complies
Notable Trees	Not indicated on Far North Proposed District Plan. Complies
Sites and Areas of Significance to Māori	There are no activities proposed within the SASM. Complies
Ecosystems and Indigenous Biodiversity	The Ecological Report confirms that the vegetation is not significant. However, clearance is greater than 500m ² . Therefore, IB-R4 PER-1 is breached. Discretionary
Activities on the Surface of Water	Not indicated on Far North Proposed District Plan

	Complies
Earthworks	Proposed earthworks will be in accordance with the relevant standards including GD-05 and will have an ADP applied. Complies
Signs	Not indicated on Far North Proposed District Plan Complies
Orongo Bay Zone	Not indicated on Far North Proposed District Plan Complies
Subdivision	An environmental benefit subdivision is not proposed. The subdivision is not within a heritage overlay or contain a scheduled heritage resource. The subdivision does contain a SASM and therefore consent is required under SUB-R15. Restricted Discretionary

44. As above, consents are also required under the Proposed District Plan as a **Discretionary Activity**.

5.0 STATUTORY CONSIDERATIONS

45. Section 104B governs the determination of applications for Discretionary and Non-Complying activities:

104B Determination of applications for discretionary or non-complying activities

After considering an application for a resource consent for a discretionary activity or non-complying activity, a consent authority—

- (a) may grant or refuse the application; and
- (b) if it grants the application, may impose conditions under [section 108](#).

Section 104B: inserted, on 1 August 2003, by [section 44](#) of the Resource Management Amendment Act 2003 (2003 No 23).

When considering an application for resource consent, a consent authority must have regard to the matters under section 104 of the Resource Management Act 1991, including any matters relating to Part 2. References to Part 2 in applications are only required where Plans may be deficient in terms of giving effect to the purpose and principles of the Act.

46. Section 104 of the RMA sets out matters to be considered when assessing an application for a resource consent.

104 Consideration of applications

- (1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to—
- (a) any actual and potential effects on the environment of allowing the activity; and
 - (ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and
 - (b) any relevant provisions of—
 - (i) a national environmental standard;
 - (ii) other regulations;
 - (iii) a national policy statement;
 - (iv) a New Zealand coastal policy statement;
 - (v) a regional policy statement or proposed regional policy statement;
 - (vi) a plan or proposed plan; and
 - (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

47. In the determination of this application, those considerations include the actual and potential effects of an activity on the environment, the relevant provisions of the Northland Regional Policy Statement (or other relevant statutory document), the Far North District Plan and any other matter the consent authority considers relevant and reasonably necessary to determine the application.

48. The following assessment addresses all of the relevant considerations under s104 of the RMA.

49. The RMA definition of ‘Environment’ includes:

- (a) Ecosystems and the constituent parts, including people and communities; and*
- (b) All natural and physical resources; and*
- (c) Amenity values; and*
- (d) The social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) of this definition or which are affected by those matters.*

50. The definition of ‘Environment’ includes the concept of a ‘future state of the environment’ where the environment as it currently exists might be modified by permitted activities and by resource consents that have been granted, and where it appears likely that those consents will be implemented.

51. Section 104(2) of the RMA states that:

“when forming an opinion for the purposes of subsection (1)(a), a consent authority may disregard an adverse effect of the activity on the environment if a national environmental

standard or the plan permits an activity with that effect.”

52. This is referred to as the “permitted baseline” which includes effects on the environment arising from permitted standards that form part of a District Plan.
53. In the context of this application, the permitted baseline includes the permitted residential activities standards for the General Coastal zone and the relevant district wide rules. Any adverse effects associated with these activities are deemed to be acceptable to the extent that they are permitted and may be disregarded in accordance with Section 104(2).
54. Within the General Coastal Zone, the level of permitted activities is small due to the imposition of the residential intensity and visual amenity rules. This effectively only provides built development at 25m² for human habitation. There are no permitted subdivisions.
55. The RMA meaning of ‘effect’ includes:

3 Meaning of effect


In this Act, unless the context otherwise requires, the term **effect** includes—

- (a) any positive or adverse effect; and
- (b) any temporary or permanent effect; and
- (c) any past, present, or future effect; and
- (d) any cumulative effect which arises over time or in combination with other effects— regardless of the scale, intensity, duration, or frequency of the effect, and also includes—
- (e) any potential effect of high probability; and
- (f) any potential effect of low probability which has a high potential impact.

56. For this application, the potential adverse effects to be assessed are those arising from aspects of the proposal that have been identified as requiring a resource consent in the **Tables** above.

Table 4 – Assessment of Effects

Matter	Assessment
Allotment Sizes & Dimensions	
Whether the allotment is of sufficient area and dimensions to provide for the intended purpose or land use, having regard to the relevant zone standards and any District wide rules for land uses.	<p>The subdivision has been designed to meet a 6ha average size across the three allotments so that it is in general accordance with the Chapter 13 Management Plan standards.</p> <p>The intended use / purpose of the land for low density residential use is met through the allotment sizes which allocate a very small portion of 900m² of the ~6ha sections. This is</p>

	<p>1.5% of the total site size allocated to built development.</p> <p>The building envelopes are demonstrated as being appropriate from a land stability and civil perspective.</p> <p>Building envelopes are within 20m of vegetation, but this vegetation will be specifically planted to be low flammability and reduce risk to the overall landholding.</p>
<p>Whether the proposed allotment sizes and dimensions are sufficient for operational and maintenance requirements.</p>	<p>The building envelopes have been assessed as being appropriate in terms of maintenance and operational requirement associated with water, wastewater and stormwater. Reference should be made to Appendix 3 for further detail.</p>
<p>The relationship of the proposed allotments and their compatibility with the pattern of the adjoining subdivision and land use activities, and access arrangements.</p>	<p>The proposed allotments are all related to one another and share access from Te Raupo Road.</p> <p>The relationship to the other allotments in the surrounds are provided below. The Cycle Trail provides a clear defensible boundary regarding immediate context.</p>  <p>The proposed allotments are comparable to those to the east which are 2.7814ha and 2.5237ha.</p> <p>The site to the north is made up of two parcels and are ~20ha in size.</p>

	The sites are used in a residential capacity. This is also proposed under this application. There are no effects arising from potentially incompatible activities.
Whether the cumulative and long-term implications of proposed subdivisions are sustainable in terms of preservation of the rural and coastal environments.	There are no cumulative nor long term implications resulting from the proposal. The proposal is considered appropriate in the coastal environment.
Natural & Other Hazards	
Any information held by the Council or the Northland Regional Council regarding natural hazards, contaminated sites or other hazards.	Information is provided in the Figures above.
Information obtained by suitably qualified experts, whose investigations are supplied for subdivision applications.	Please refer to Appendix 3 . This concludes that development on each allotment is appropriate in terms of s106 of the RMA.
Potential adverse effects on other land that may be caused by the subdivision or anticipated land use activities.	The known hazards are land stability, flooding, and liquefaction. Land stability can be addressed via conditions of consent. Flooding is not pertinent to development. There is a negligible risk of liquefaction. Please refer to Appendix 3 for further detail.
In relation to inundation from any source, the Council shall have regard to the following factors: (i) the effects of any proposed filling being undertaken to avoid inundation and the consequential effects on the natural drainage pattern and adjoining land; (ii) flood plain management measures proposed; (iii) the proposed coastal protection mechanisms / techniques / measures and their environmental effects; (iv) any proposed boundary drainage to protect surrounding properties; (v) the adequacy of existing outfalls and any need for upgrading;	Inundation is not of concern to this application. Inundation is of a concern on the coastal flanks and do not implicate the proposed residential development.

<p>(vi) any need for retention basins to regulate the rate and volume of surface run-off.</p>	
<p>In relation to erosion, falling debris or slippage, the need for ongoing conditions aimed at avoiding, remedying or mitigating future potential adverse effects, and any need for registration of consent notices on the allotment's Certificate of Title, pursuant to Rule 13.6.7</p>	<p>Consent notice conditions are required in this respect for each of the proposed building platforms. The requirement for leading edges to be established at time / prior to development is important to mitigate the effects of soil creep for future development.</p>
<p>In relation to subsidence, the provision of suitability certificates, such as NZS 4431, or if not appropriate, the setting of ongoing conditions, with consent notices registered on the Certificates of Title, pursuant to Rule 13.6.7.</p>	<p>Refer above.</p>
<p>In relation to contaminated sites, any soil tests establishing suitability, and methods to avoid, mitigate or remedy the effects, including removal to approved disposal points.</p>	<p>There are no known contaminated soils.</p>
<p>In relation to land filling and excavation operations, the following factors:</p> <ul style="list-style-type: none"> (i) the effects on surrounding properties in terms of dust nuisance, visual detracting, or the potential height of buildings on filled land; (ii) any adverse impacts on the natural pattern of surface drainage both on and outside the site; (iii) the type of, and placement of, fill material in terms of its potential for contamination of land or water, or potential subsidence; (iv) mitigation, or avoidance, of adverse effects caused by filtration affecting neighbouring properties; (v) remedies necessary during emergencies; (vi) the rules contained in Section 12.3 	<p>The Geotechnical Report [Appendix 3] considers that no earthworks should be undertaken across the building platforms until site specific development proposal has been received.</p> <p>The Ecological Impact Assessment aligns with this thinking in that clearance / maintenance clearance of building envelopes / roads should be undertaken manually and without site scrapes occurring [refer Page 6].</p>

<p>relating to filling and excavation of land;</p> <p>(vii) the impact of filling or excavation on heritage values, ecological values, cultural values, surface water quality, and access along waterways;</p> <p>(viii) any beneficial effects in terms of waterway enhancement.</p>	
Water Supply	
<p>Where there is no reticulated water supply available for connection, whether it would be appropriate to allow a private restricted flow rural-type water supply system; such supply being always available and complying with "Drinking Water Standards of New Zealand" (1995).</p>	<p>Potable water is to be provided to each building allotment at time of development.</p> <p>It is envisaged that a typical 4 bedroom dwelling would require 2 x 25,000l water tanks. This can be conditioned.</p>
<p>Whether the provisions of the "Engineering Standards and Guidelines 2004 – Revised March 2009" (to be used in conjunction with NZS 4404:2004) have been met in respect of fire fighting water supply requirements.</p>	<p>The Engineering Report relies on SNZPAS 4509: 2008 and considers 2 x 25,000l water tanks dedicated to fire fighting to be appropriate. This can be conditioned.</p>
<p>Whether the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004) have been met in respect of installation of all necessary water supply pipe lines, and ancillary equipment necessary for the subdivision, including extensions to existing supply systems, and including mains, sub-mains, service and fire hydrants.</p>	<p>Not relevant</p>
<p>Whether the existing water supply systems, to which the connection will be made, have sufficient capacity to service the subdivision.</p>	<p>Not relevant</p>
<p>Whether it may be necessary to provide new reservoirs, pumping stations and rising mains, or increased pipe sizes leading to the subdivision in existing streets, or providing new wells and new pumping units.</p>	<p>Not relevant</p>
<p>Whether there is a need for a local purpose reserve to be set aside and vested in the</p>	<p>Not relevant</p>

Council as a site for any public water supply utility required to be provided.	
Stormwater Disposal	
Whether the application complies with any regional rules relating to any water or discharge permits required under the Act, and with any resource consent issued to the District Council in relation to any urban drainage area stormwater management plan or similar plan.	Refer to Appendix 3 for assessment. In summary, stormwater for each allotment can be managed at time of development to meet the applicable FNDC Engineering Standards.
Whether the application complies with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004).	Refer to Appendix 3 for assessment.
Whether the application complies with the Far North District Council Strategic Plan - Drainage.	Refer to Appendix 3 for assessment.
The degree to which Low Impact Design principles have been used to reduce site impermeability and to retain natural permeable areas.	Refer to Appendix 3 for assessment.
The adequacy of the proposed means of disposing of collected stormwater from the roof of all potential or existing buildings and from all impervious surfaces.	Refer to Appendix 3 for assessment.
The adequacy of any proposed means for screening out litter, the capture of chemical spillages, the containment of contamination from roads and paved areas, and of siltation.	Refer to Appendix 3 for assessment.
The practicality of retaining open natural waterway systems for stormwater disposal in preference to piped or canal systems and adverse effects on existing waterways.	Refer to Appendix 3 for assessment.
Whether there is sufficient capacity available in the Council's outfall stormwater system to cater for increased run-off from the proposed allotments.	Refer to Appendix 3 for assessment.
Where an existing outfall is not capable of accepting increased run-off, the adequacy of proposals and solutions for disposing of run-	Refer to Appendix 3 for assessment.

off.	
The necessity to provide on-site retention basins to contain surface run-off where the capacity of the outfall is incapable of accepting flows, and where the outfall has limited capacity, any need to restrict the rate of discharge from the subdivision to the same rate of discharge that existed on the land before the subdivision takes place.	Refer to Appendix 3 for assessment.
Any adverse effects of the proposed subdivision on drainage to, or from, adjoining properties and mitigation measures proposed to control any adverse effects.	Refer to Appendix 3 for assessment.
In accordance with sustainable management practices, the importance of disposing of stormwater by way of gravity pipe lines. However, where topography dictates that this is not possible, the adequacy of proposed pumping stations put forward as a satisfactory alternative.	Refer to Appendix 3 for assessment.
The extent to which it is proposed to fill contrary to the natural fall of the country to obtain gravity outfall; the practicality of obtaining easements through adjoining owners' land to other outfall systems; and whether filling or pumping may constitute a satisfactory alternative.	Refer to Appendix 3 for assessment.
For stormwater pipes and open waterway systems, the provision of appropriate easements in favour of either the registered user or in the case of the Council, easements in gross, to be shown on the survey plan for the subdivision, including private connections passing over other land protected by easements in favour of the user.	Refer to Appendix 3 for assessment.
Where an easement is defined as a line, being the centre line of a pipe already laid, the effect of any alteration of its size and the need to create a new easement.	Refer to Appendix 3 for assessment.
For any stormwater outfall pipeline through a reserve, the prior consent of the Council, and	Refer to Appendix 3 for assessment.

the need for an appropriate easement.	
The need for and extent of any financial contributions to achieve the above matters.	Refer to Appendix 3 for assessment.
The need for a local purpose reserve to be set aside and vested in the Council as a site for any public utility required to be provided.	Refer to Appendix 3 for assessment.
Sanitary Sewage Disposal	
Whether the capacity, availability, and accessibility of the reticulated system is adequate to serve the proposed subdivision.	Not relevant.
Whether the application includes the installation of all new reticulation, and complies with the provisions of the Council’s “Engineering Standards and Guidelines” (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004).	Not relevant.
Whether the existing sanitary sewage disposal system, to which the outfall will be connected, has sufficient capacity to service the subdivision.	Not relevant.
Whether a reticulated system with a gravity outfall is provided, and where it is impracticable to do so, whether it is feasible to provide alternative individual pump connections (with private rising mains), or new pumping stations, complete pressure, or vacuum systems. Note: Council consent to install private rising mains within legal roads will be required, under the Local Government Act.	Not relevant.
Where a reticulated system is not available, or a connection is impractical, whether a suitable sewage treatment or other disposal systems is provided in accordance with regional rules or a discharge system in accordance with regional rules or a discharge permit issued by the Northland Regional Council.	Appendix 3 highlights appropriate disposal methods and areas for each allotment. At time of development this will be supplemented via consent notice conditions to ensure that wastewater is undertaken in accordance with appropriate standards.
Where a reticulated system is not immediately available but is likely to be in the near future, whether a temporary system is	Not relevant.

appropriate. Note: Consent notices may be registered against Certificates of Title pursuant to Rule 13.6.7 requiring individual allotments to connect with the system when it does become available.	
Whether provision has been made by the applicant for monitoring mechanisms to ensure contaminants are not discharged into the environment from a suitable sewage treatment or other disposal system, together with any consent notices to ensure compliance.	Not relevant.
Whether there is a need for, and the extent of, any development contributions to achieve the above matters.	Not relevant.
Whether there is a need for a local purpose reserve to be set aside and vested in the Council as a site for any public sewage utility for sanitary disposal purposes required to be provided.	Not relevant.
Whether the subdivision represents the best practical option in respect of the provision that is made for the disposal of sewage and waste water.	Design parameters are provided in Appendix 3 that are compliant with the requirements of the NRC Proposed Regional Plan, ASNZ: 1547 / TP 58, and the FNDC Engineering Standards. Each site can be appropriately serviced in this regard for on-site, individual systems.
Energy Supply	
Where the subdivision involves the construction of new roads or formed rights of way, whether an extended reticulation system will be installed (at the subdivider's cost), having regard to the provisions of the Council's "Engineering Standards and Guidelines 2004 – Revised March 2009 (to be used in conjunction with NZS 4404:2004). The application for subdivision consent should also indicate how lots are to be reticulated.	The proposal will be serviced off-grid predominantly. However, Council's typical consent notice regarding power can be applied should an owner wish to have this provided to the site at their own cost.
Whether the proposed reticulated system to be installed by the subdivider is adequate for the likely development.	As above

Where the proposed system will serve other land that is not part of the subdivision, whether the network operator is providing sufficient capacity as initially installed and the cost of such provision. Note: Upgrading or cost sharing will be solely a matter for the network operator.	Not relevant.
Where a gas supply is proposed, whether the gas network operator is responsible for the installation of all pipelines and their future maintenance, in line with the provisions of the Council's "Engineering Standards and Guidelines" (2004)- Revised March 2009 (to be used in conjunction with NZS 4404:2004)	Not relevant.
Whether there is a need for a local purpose reserve to be set aside as a site for any public utility required to be provided.	Not relevant.
Whether there will be potential adverse effects of the proposed reticulation system on amenity values.	As above.
Whether the subdivision design, location of building platforms and proposed electricity supply has had adequate regard to the future adoption of appropriate renewable energy initiatives and technologies.	The proposed building platforms have ample scope for the use of renewable energy technologies such as solar and wind.
Top Energy Transmission Lines	
The extent to which the subdivision design mitigates the effects of the lines through the location of roads and reserves under the route of the line.	Not relevant, there are no 50kV or higher lines within 20m of the subdivision.
The ability to carry out maintenance and inspection of transmission lines to avoid risk of injury and/or property damage.	As above
The outcomes of consultation with the affected utility operator.	As above
The subdivision design, location of building platforms, location of any proposed tree planting, extent and nature of earthworks.	As above
Telecommunications	
Where the subdivision involves construction of new roads or formed rights of way, whether	The proposal will be serviced off-grid predominantly. However, Council's typical

an extended reticulation system has been installed (at the subdivider’s cost), having regard to the Council’s “Engineering Standards and Guidelines 2004 – Revised March 2009 (to be used in conjunction with NZS 4404:2004) and “The National Environmental Standard for Telecommunication Facilities 2008”.	consent notice regarding telecoms can be applied should an owner wish to have this provided to the site at their own cost.
Where the proposed system will serve other land which is not part of the subdivision, whether the network operator is providing sufficient capacity as initially installed, and the cost of such provision.	As above
Whether the proposed reticulation system will have potential adverse effects on amenity values.	No effects are resulting if using wi-fi for connection purposes.
Easements for Any Purpose	
Easements in gross where a service or access is required by the Council.	The Scheme Plan in Appendix 2 outlines the necessary easements. No easements in gross are required.
Easements in respect of other parties in favour of nominated allotments or adjoining Certificates of Title.	Refer to Appendix 2 . These are shown with respect to services and access.
Service easements, whether in gross or private purposes, with sufficient width to permit maintenance, repair or replacement. Centre line easements shall apply when the line is privately owned and unlikely to require upgrading.	Not relevant.
Easements for any of the following purposes: <ul style="list-style-type: none"> (i) private ways, whether mutual or not; (ii) stormwater, sanitary sewer, water supply, electric power, gas reticulation; (iii) telecommunications; (iv) party walls and floors/ceilings. (v) any other network utilities. 	Refer to Appendix 2 .
Easements in gross in favour of the Council adjoining banks of rivers, streams, lakes,	Not relevant.

wetlands or the coastal marine area not subject to an esplanade reserve or strip.	
Easements in gross in favour of the Council adjoining banks of rivers, streams, lakes, wetlands or the coastal marine area not subject to an esplanade reserve or strip.	Not relevant.
Provision of Access	
Whether provision for access to and within the subdivision, including private roads, has been made in a manner that will avoid, remedy or mitigate adverse effects on the environment, including but not limited to traffic effects, including effects on existing roads, visual effects, effects on vegetation and habitats, and natural character.	<p>Access is already provided to the site and to the proposed building platforms.</p> <p>Traffic effects are addressed in Appendix 7. This assessment concludes that with mitigation measures the effects associated with access will be less than minor. Mitigation measures include the installation of signage, removal of vegetation, and stabilization of steeper areas.</p> <p>From a visual perspective, new accessways and vehicular circulation / manouvring areas are to be construction from blue metal, a dark sealed surface or from exposed aggregate with a dark oxide additive.</p> <p>Natural character values will not be detracted to any more than a very low level as concluded by Appendix 4.</p> <p>In terms of vegetation and habitats, the access is proposed where tracks are existing. There are no significant areas within these margins where access is proposed [Refer Appendix 5].</p> <p>Clearance for development an ongoing maintenance is specified within Page 6 of the Ecological Assessment. The effects of this is considered as Very Low [less than minor] through imposition of the recommended mitigation measures.</p>
Effect of Earthworks & Utilities	
Whether the effects of earthworks and the	As above, the Geotechnical Report considers

<p>provision of services to the subdivision will have an adverse effect on the environment and whether these effects can be avoided, remedied or mitigated.</p>	<p>that no earthworks should be undertaken within the building envelopes to promote a dwelling.</p> <p>The LVIA promotes minimal earthworks for internal roading, development, driveways and retaining walls. Where they are required certain mitigation measures are promoted, but these will likely be conditions of future development proposals.</p> <p>The Ecological Impact Assessment seeks designated development earthwork envelopes to minimize accidental incursion and unintentional vegetation clearance. There are also recommendations to ensure clearance is via hand only.</p> <p>In terms of servicing, power and telecoms will be delivered by off-grid means [i.e solar / wifi] so these effects will not be felt in terms of infrastructure in and around the CMA.</p> <p>The Traffic Impact Assessment concludes that works are required to promote appropriate access to the site from Te Raupo Road and on Te Raupo Road. These earthworks are generally associated with roading and do little to impact ecological features or landscape matters. Erosion and sediment controls can be applied prior to works being undertaken.</p> <p>In terms of earthworks and utilities, it is considered appropriate to provide appropriate soil and erosion control measures prior to development for the completion of building and roading works at time of development.</p>
<p>Building Locations</p>	
<p>Whether the subdivision provides physically suitable building sites.</p>	<p>Yes – these are provided as outlined above and in engineering reports.</p>
<p>Whether or not development on an allotment should be restricted to parts of the site.</p>	<p>Yes – this is proposed to the proposed building platforms for Lot 1 and Lot 2.</p>

Where a proposed subdivision may be subject to inundation, whether the establishment of minimum floor heights for buildings is necessary in order to avoid or mitigate damage.	Not relevant.
Whether the subdivision design in respect of the orientation and dimensions of new allotments created facilitates the siting and design of buildings able to take advantage of passive solar gain (e.g. through a northerly aspect on an east/west axis).	Both vacant lots can be developed to ensure passive solar gain.
Preservation and Enhancement of Heritage Resources, Vegetation, Fauna and Landscape, and Land Set Aside for Conservation Purposes	
Whether any vegetation, habitats of indigenous fauna, heritage resources and landscape features are of sufficient value in terms of the objectives and policies in Chapter 12 of the Plan, that they should be protected.	<p>The Ecological Impact Assessment considers that the wetland and terrestrial cover have a ‘high’ value. Vegetation near the margins of roads / tracks and building envelopes have less value / significance.</p> <p>Outside of the building platforms, the applicant proposes to covenant all areas. The covenant will be by way of a s221 consent notice condition. This protects those area of high value.</p>
Whether the means (physical and/or legal) by which ongoing preservation of the resource, area or feature will be achieved is adequate.	Refer above.
Where there are Sites of Cultural Significance to Maori, (refer to Appendix 1F and the Resource Maps), whether it is appropriate to require their protection by physical or legal means and/or to provide for access to the site over the land to be subdivided.	This is proposed to be protected by vegetative covenants.
Where a reserve is to be set aside and vested in the Council, whether the value of the reserve land is offset against the assessment of any financial contribution.	Not relevant.
Whether any measures are proposed to protect known high density kiwi habitats from predation by dogs, cats, rats, mustelids, pigs, and other animal pests.	The proposal seeks to incorporate a ban on keeping cats, dogs and mustelids.

Whether the subdivision would have an adverse effect on the ability to protect listed historic buildings, places or objects and their setting or surrounds; and the protection of listed notable trees.	The Archaeological Report contained in Appendix 6 does not consider that the proposal would have any effects on archaeological sites.
Whether the subdivision will result in the permanent protection and/or enhancement of heritage resources, areas of significant indigenous vegetation and significant habitats of indigenous fauna, outstanding landscapes, outstanding landscape features or outstanding natural features.	Not proposed.
Whether the subdivision will result in the significant enhancement of biodiversity values through planting of native flora (preferably those species that naturally grow in the area) and ongoing management (including pest animal and plant control, fencing and replacement of failed plantings, stream enhancement and waterway protection).	As above, the proposal seeks to protect vegetation through covenanting. In addition, the proposal will provide a Pest and Weed Management Plan for each allotment to comply with on an ongoing basis.
Soil	
The extent to which any subdivision will contribute to or affect the ability to safeguard the life supporting capability of soil.	The proposal seeks 900m ² envelopes for building and domestic use. The remainder of the site where not used for access will be protected and soils will be safeguarded accordingly.
The degree to which the life supporting capacity of the soil may be adversely affected by the subdivision and the degree to which any soils classified as I, II or III in the NZ Land Resource Inventory Worksheets are adversely affected by the subdivision.	Soils are not Class 1 -3
Access to Waterbodies	
The degree to which the proposal takes into account the preservation and/or enhancement of the natural character of the coastal environment.	Public access is already provided around the CMA. There is no known need to extend these.
Land Use Incompatibility	
The degree to which the proposed allotments take into account adverse effects arising from	The site and surrounds do not have activities present that would promote such activities and

incompatible land use activities (including but not limited to noise, vibration, smell, smoke, dust and spray) resulting from an existing land use adjacent to the proposed subdivision.	associated effects.
Proximity to Airports	
The degree to which the proposal takes into account reverse sensitivity - adverse effects arising from incompatible land use activities arising from being in proximity to an airport (including, but not limited to, the hours of operation, flight paths, noise, vibration, glare and visual intrusion).	Not relevant
Natural Character of the Coastal Environment	
The degree to which the proposal takes into account the preservation and/or enhancement of the natural character of the coastal environment.	The proposal is supported by an LVIA which concludes that effects of are a low level.
Energy Efficiency & Renewable Energy Development / Use	
<p>The extent to which the application promotes energy efficiency and renewable energy development and use through the following initiatives:</p> <p>(a) ability to develop energy efficient buildings and structures (e.g. by providing a north-facing site with the ability to place a building on an east/west axis);</p> <p>(b) reduced travel distances and car usage by designing a layout with as many links to adjacent sites and surrounding roads as practicable;</p> <p>(c) encouragement of pedestrian and cycle use by designing a layout that allows easy direct access to and from, shops, schools, work places, reserves and other amenities;</p> <p>(d) access to alternative transport facilities;</p> <p>(e) domestic or community renewable electricity generation;</p> <p>(f) solar street lighting.</p>	The proposal seeks to subdivide the site and promote future development which can seek to undertake or include solar development [for example].
National Grid Corridor	
Where it is proposed to have development	Not relevant

<p>within the National Grid Corridor particular regard shall be had to the following matters:</p> <p>(a) Whether the design and construction of the subdivision allows for earthworks, buildings and structures to comply with the safe distance requirements of the New Zealand Electrical Code of Practice for Safe Distances (NZECP 34:2001);</p> <p>(b) Provision for the ongoing operation, maintenance and planned upgrade of the National Grid.</p>	
<p>Vegetation Clearance [12.2.7 Assessment Criteria]</p>	
<p>Items [a] to [r]</p>	<p>These matters are comprehensively considered in the Ecological Impact Assessment. The overall conclusion of the EIA is that the proposal results in Very Low effects [less than minor].</p>
<p>Transportation</p>	
<p>15.1.6C.4.1 Property Access Items [a] to [k]</p>	<p>Please refer to the Traffic Impact Assessment for assessment. This concludes that subject to mitigation measures that effects are less than minor.</p>
<p>15.1.6C.4.2 Frontage to Existing Roads Item [a]</p>	<p>Please refer to the Traffic Impact Assessment. This concludes that subject to mitigation measures that effects are less than minor. Te Raupo Road is already undersigned and FNDC Roding Team are comfortable with the proposed measures the applicant is willing to offer.</p>
<p>Fire Risk to Residential Units</p>	
<p>12.4.7 Items [a] to [n]</p>	<p>With respect to fire fighting, the proposal seeks to provide 45m³ of water at time of development. This volume is as per the relevant fire fighting supply standard.</p> <p>In addition, the proposal seeks to use fire mitigation vegetation in and around the building platform. With these measures in place, it is considered that the proposal will reduce effects associated with fire risk.</p>

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<p>The particular cultural, spiritual and/or historical values, interests or associations of importance to tangata whenua that are associated with the site which may be affected;</p>	<p>The Archaeological Report begins to touch on some of the cultural associations of the site and highlights archaeological mapping of Pumuka's Pa.</p> <p>The archaeological mapping differs from the area shown in the ODP / PDP. The archaeological area is further to the north and away from the site.</p> <p>In any event, the applicant proposes to covenant all areas not being used as road / tracks / building platforms. This protects the area that intersects MS09-10 and the application site.</p> <p>All development is proposed to be located outside of the MS09-10 attribution. For those reasons, no effects are expected to arise from the proposal.</p>
<p>Whether sufficient land is provided around the Site and area of significance to Māori to protect associated cultural, spiritual and/or historical values, interests or associations;</p>	<p>The landholding will be of a different shape and size but from a management perspective, nothing changes following the completion of the subdivision. The building platform is well separated from the area marked as being part of MS09-10. Sufficient land is considered to be provided.</p>
<p>Consultation with and/or cultural advice provided by tangata whenua, in particular with respect to mitigation measures and/or the incorporation of mātauranga Māori principles into the design, development and/or operation of activities that may affect the site;</p>	<p>Nil</p>
<p>Opportunities for the relationship of tangata whenua with the site or area to be maintained or strengthened on an ongoing or long term basis, including practical mechanisms to access, use and maintain the identified site; and</p>	<p>The site can already be accessed from the maori land parcels to the north. Development has also occurred near and along the site. Where the application site intersects with MS09-10, protection is proposed in the form of a covenant.</p>
<p>Whether the allotments are of a size that will</p>	<p>The size of the allotments does little to</p>

<p>continue to provide the Site or Area of Significance to Māori with a suitable cultural setting to maintain, protect or enhance the associated cultural values.</p>	<p>maintain, protect or enhance cultural practices in this instance. The key mitigation is that vegetation / land within MS09-10 where it intersects Lot 1 will be subject to formal protection [covenant]. Therefore, no development will be undertaken in this area.</p>
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Potential Effects to Persons

<p>Who are the surrounding persons</p>	 <table border="1"> <thead> <tr> <th>Address</th> <th>Suburb</th> <th>Town</th> <th>Capital Value</th> <th>Owners</th> <th>Last Sale Date</th> <th>Last Sale Price</th> <th>Land Area</th> <th>Floor Area</th> </tr> </thead> <tbody> <tr> <td>154 Te Raupo Road</td> <td>Opua</td> <td>Far North</td> <td>1710000</td> <td>Sielia Limited</td> <td></td> <td></td> <td>21.2147 ha</td> <td></td> </tr> <tr> <td>158 Te Raupo Road</td> <td>Opua</td> <td>Far North</td> <td>500000</td> <td>Peter Evans Stuart</td> <td></td> <td></td> <td>2.7803 ha</td> <td></td> </tr> <tr> <td>206B Te Raupo Road</td> <td>Opua</td> <td>Far North</td> <td>1142000</td> <td>Camella Brown, Desmond Brown, Ngakururangi Langman, Mary Ellen Lenaghan, Margaret Camelia Wendy Riharaha</td> <td>01 Jan 1905</td> <td>375000</td> <td>23.8891 ha</td> <td>170 m²</td> </tr> <tr> <td>0 Pahia Road</td> <td>Opua</td> <td>Far North</td> <td>1030000</td> <td>Mary Rose White</td> <td>08 Jun 2018</td> <td>850000</td> <td>54.9892 ha</td> <td></td> </tr> </tbody> </table>	Address	Suburb	Town	Capital Value	Owners	Last Sale Date	Last Sale Price	Land Area	Floor Area	154 Te Raupo Road	Opua	Far North	1710000	Sielia Limited			21.2147 ha		158 Te Raupo Road	Opua	Far North	500000	Peter Evans Stuart			2.7803 ha		206B Te Raupo Road	Opua	Far North	1142000	Camella Brown, Desmond Brown, Ngakururangi Langman, Mary Ellen Lenaghan, Margaret Camelia Wendy Riharaha	01 Jan 1905	375000	23.8891 ha	170 m ²	0 Pahia Road	Opua	Far North	1030000	Mary Rose White	08 Jun 2018	850000	54.9892 ha	
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<p>Where are they located relative to the site</p>	
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<p>What are the potential effects to persons</p>	<p>Typical effects to persons result from activities associated with subdivision. In this instance, the activities will only be residential in nature.</p> <p>Building platforms are all reasonably located within each allotment with considerable separation distances internally, as well as to existing uses in the surrounds [which are also residential in nature]. There are no potential effects from residential use envisaged to others, save for traffic matters. From a traffic perspective the effects are considered less than minor to Te Raupo Road users.</p> <p>Each site can contain its own wastewater and stormwater within the confines of its own site.</p> <p>The majority of the site outside of roads and building platforms will be set aside for protection by way of covenant.</p> <p>In terms of MS09-10, there is no development proposed within the area where Lot 1 intersects</p>
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	<p>the attribution. A subdivision does not create any effects where no development is proposed [i.e what this proposal seeks]. Therefore, effects to the feature are avoided in its entirety.</p> <p>Residential use is common in the environment with houses located within the feature. Houses promoted outside the feature must therefore have a nil effect.</p> <p>In addition to the above, certain neighbours have provided their written approval.</p> <p>These factors ensure that adverse effects are less than minor.</p>
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57. Overall, it is considered that the actual and potential adverse effects of the proposal would be less than minor.

6.0 RELEVANT PLAN CONSIDERATIONS

58. Section 104 (1)(b) requires that regard be given to the relevant provisions of:

- A national environmental standard;
- Other regulations;
- A national policy statement;
- A New Zealand coastal policy statement;
- A regional policy statement or proposed regional policy statement;
- A plan or proposed plan

59. There are no applicable National Environmental Standards. It is concluded that the site is not a HAIL site and that the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health does not apply to this proposal. Furthermore, the activity is not affected by the NES – Freshwater due to separation distances from existing wetlands.

60. In terms of relevant National Policy Statements, the NPS for Highly Productive Land does not apply to this site.

61. The NPS for Indigenous Biodiversity has no rules so is not relevant.

6.1 New Zealand Coastal Policy Statement 2010

62. The New Zealand Coastal Policy Statement 2010 [**NZCPS**] contains objectives and policies designed to achieve the sustainable management purpose of the RMA in respect of New Zealand's coastal environment.
63. It is relevant to this application to the extent that the lower order regional and district plans must consistently give effect to the NZCPS in terms of any proposed subdivision, use or development of land or coastal areas comprising the coastal environment.
64. The LVIA considers that Objective 2, Objective 4, and Policy 6, 13, and 15 are appropriate to the application. These relate to the preserve of natural character in the coastal environment, maintenance and enhancement of public open space, activities in the coastal environment and consideration of natural features and natural landscapes.
65. The LVIA considers that the landform, geology and hydrology changes will be of a small magnitude. Biophysical biotic attributes will be as per the EIA which is negligible – low in terms of change of ecological context resulting from the proposal. Experiential attributes will be mitigated through recessive design and location of building platforms relative to viewshafts. Changes will be small in effect and will not noticeably change the visual character of the site. Landscapes effects are low as a result of existing modification and the small scale of the proposal and its changes to the environment.
66. For the reasons above, the proposal is considered consistent with the NZCPS.

6.2 Northland Regional Policy Statement

67. The subject site is within the Northland region and is subject to the governing objectives and policies of the operative Northland Regional Policy Statement (operative May 2016).
68. With respect to any identified features, the site is located within the Coastal Environment, and part of the site is identified as containing a High Natural Character area. As above, these features are not implicated by the proposal.
69. Public access is not affected by the proposal as these arrangement are already present surrounding the site.
70. There are not considered to be any other relevant matters that pertain to this application that requires consideration over and above what is already considered by way of the ODP / PDP consideration above.
71. Overall, it is considered that the proposal would not be inconsistent with the Northland Regional Policy Statement.

6.3 FNDC Operative District Plan

72. The relevant objectives are those associated with the Coastal Environment, General Coastal Zone and Subdivision Chapter of the ODP. These are addressed below.

Table 5 – Coastal Environment Assessment

Matter	Assessment
<p>10.3.1 To manage coastal areas in a manner that avoids adverse effects from subdivision, use and development. Where it is not practicable to avoid adverse effects from subdivision use or development, but it is appropriate for the development to proceed, adverse effects of subdivision use or development should be remedied or mitigated.</p>	<p>The proposition is that this application avoids adverse effects [i.e largescale bush / covenant protection] whilst mitigating localised effects resulting from residential use following subdivision. This aligns with the objective.</p>
<p>10.3.2 To preserve, and where appropriate in relation to other objectives, to restore, rehabilitate protect or enhance:</p> <ul style="list-style-type: none"> ▪ the natural character of the coastline and coastal environment; ▪ areas of significant indigenous vegetation and significant habitats of indigenous fauna; ▪ outstanding landscapes and natural features; ▪ the open space and amenity values of the coastal environment; ▪ water quality and soil conservation (insofar as it is within the jurisdiction of the Council). 	<p>As above, these are largely met through wholesale covenanting / protection of bush areas and enhanced through the proposed pest and weed management plan, and landscape controls / measures.</p>
<p>10.3.3 To engage effectively with Maori to ensure that their relationship with their culture and traditions and taonga is identified, recognised and provided for.</p>	<p>The applicant has not engaged with Maori but has actively considered the resource feature on site and avoided all effects to this feature.</p>

Matter	Assessment
<p>10.3.4 To maintain and enhance public access to and along the coast whilst ensuring that such access does not adversely affect the natural and physical resources of the coastal environment, including Maori cultural values and public health and safety.</p>	<p>Public access is existing so is maintained through this proposal. It is enhanced on certain aspects of Te Raupo Road where mitigation works are proposed.</p>
<p>10.3.5 To secure future public access to and along the coast, lakes and rivers (including access for Maori) through the development process and specifically in accordance with the <i>Esplanade Priority areas</i> maps in the District Plan.</p>	<p>Not relevant.</p>
<p>10.3.6 To minimise adverse effects from activities in the coastal environment that cross the Coastal Marine Area boundary.</p>	<p>Not relevant.</p>
<p>10.3.7 To avoid, remedy or mitigate adverse effects on the environment through the provision of adequate land-based services for mooring areas, boat ramps and other marine facilities.</p>	<p>Not relevant.</p>
<p>10.3.8 To ensure provision of sufficient water storage to meet the needs of coastal communities all year round.</p>	<p>Sufficient water will be provided at time of development.</p>
<p>10.3.9 To facilitate the sustainable management of natural and physical resources in an integrated way to achieve superior outcomes to more traditional forms of subdivision, use and development through management plans and integrated development.</p>	<p>The proposal seeks to use the management plan provisions in terms of density and provide a similar level of environmental enhancement without the onerous central body management obligations. This is achievable in this instance because outside of roading and building platform areas, the entire site will be protected. This is distinguishable from other Management Plan subdivisions which tend to have areas which remain actively farmed or are used for common activities / infrastructure. Given the small amount of allotments proposed, these are not warranted.</p>

Matter	Assessment
<p>10.4.1 That the Council only allows appropriate subdivision, use and development in the coastal environment. Appropriate subdivision use and development is that where the activity generally:</p> <p>(a) recognises and provides for those features and elements that contribute to the natural character of an area that may require preservation, restoration or enhancement; and</p> <p>(b) is in a location and of a scale and design that minimises adverse effects on the natural character of the coastal environment; and</p> <p>(c) has adequate services provided in a manner that minimises adverse effects on the coastal environment and does not adversely affect the safety and efficiency of the roading network; and</p> <p><i>Continued</i></p>	<p>The proposal contains numerous supporting reports which consider natural character and the necessary mitigation and avoidance measures required to promote the subdivision.</p> <p>The location, scale and design of the building platforms have been assessed as appropriate and relates to less than minor effects to natural character of the coastal environment. This will be assessed again at time of built development for specific housing proposals. Each allotment can be serviced.</p>
<p>10.4.2 That sprawling or sporadic subdivision and development in the coastal environment be avoided through the consolidation of subdivision and development as far as practicable, within or adjoining built up areas, to the extent that this is consistent with the other objectives and policies of the Plan.</p>	<p>The site has numerous defensible boundaries where the CMA intersects the site to the east and the Cyle Trail to the west. Existing development in the surrounds are of a similar / compatible size and are of a residential nature. The subdivision seeks to connect to existing pattern to promote sensitive future development for housing.</p>
<p>10.4.3 That the ecological values of significant coastal indigenous vegetation and significant habitats are maintained in any subdivision, use or development in the coastal environment.</p>	<p>These have been appropriately assessed in the Ecological Impact Assessment.</p>

Matter	Assessment
<p>10.4.4 That public access to and along the coast be provided, where it is compatible with the preservation of the natural character, and amenity, cultural, heritage and spiritual values of the coastal environment, and avoids adverse effects in erosion prone areas;</p>	<p>Public access is provided.</p>
<p>10.4.5 That access by tangata whenua to ancestral lands, sites of significance to Maori, maahinga mataitai, taiapure and kaimoana areas in the coastal marine area be provided for in the development and ongoing management of subdivision and land use proposals and in the development and administration of the rules of the Plan and by non-regulatory methods. Refer <i>Chapter 2</i>, and in particular <i>Section 2.5</i>, and Council's <i>Tangata Whenua Values and Perspectives(2004)</i>.</p>	<p>The feature MS09-10 can be accessed through surrounding maori land where the majority if not all of the archaeological features are found.</p>
<p>10.4.6 That activities and innovative development including subdivision, which provide superior outcomes and which permanently protect, rehabilitate and/or enhance the natural character of the coastal environment, particularly through the establishment and ongoing management of indigenous vegetation and habitats, will be encouraged by the Council.</p>	<p>The proposal is considered to align with this objective as the majority of the site will be under protective covenant, allow for modest built development, whilst promoting ongoing pest and weed management.</p>
<p>10.4.7 To ensure the adverse effects of land-based activities associated with maritime facilities including mooring areas and boat ramps are avoided, remedied or mitigated through the provision of adequate services, including where appropriate:</p> <ul style="list-style-type: none"> (a) parking (b) rubbish disposal (c) waste disposal (d) dinghy racks 	<p>Not relevant.</p>

Matter	Assessment
<p>10.4.8 That development avoids, remedies or mitigates adverse effects on the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga.</p>	<p>This has been explained throughout the report. The proposal protects land where it intersects the attribution of MS09-10 and Lot 1.</p>
<p>10.4.9 That development avoids, where practicable, areas where natural hazards could adversely affect that development and/or could pose a risk to the health and safety of people.</p>	<p>The proposal avoids the mapped natural hazards which are around the coastal fringes. Land stability is assessed as appropriate in terms of s106 of the RMA.</p>
<p>10.4.10 To take into account the need for a year-round water supply, whether this involves reticulation or on-site storage, when considering applications for subdivision, use and development.</p>	<p>Provision of water will be promoted as a consent condition.</p>
<p>10.4.11 To promote land use practices that minimise erosion and sediment run-off, and storm water and wastewater from catchments that have the potential to enter the Coastal Marine Area.</p>	<p>This can be conditioned at time of development.</p>
<p>10.4.12 That the adverse effects of development on the natural character and amenity values of the coastal environment will be minimised through:</p> <ul style="list-style-type: none"> (a) the siting of buildings relative to the skyline, ridges, headlands and natural features; (b) the number of buildings and intensity of development; (c) the colour and reflectivity of buildings; (d) the landscaping (including planting) of the site; (e) the location and design of vehicle access, manoeuvring and parking areas. 	<p>These mitigation measures are provided within the LVIA and can be provided as conditions of consent.</p>

Table 6 – General Coastal Zone Assessment

Matter	Assessment
10.6.3.1 To provide for appropriate subdivision, use and development consistent with the need to preserve its natural character.	The proposal is considered to represent an appropriate subdivision which at the least preserves natural character.
10.6.3.2 To preserve the natural character of the coastal environment and protect it from inappropriate subdivision, use and development.	As above for 10.6.3.1 and matters assessed in Table 5.
10.6.3.3 To manage the use of natural and physical resources (excluding minerals) in the general coastal area to meet the reasonably foreseeable needs of future generations.	The proposal is considered to be good use of natural and physical resources. Areas set aside for protection are done so for future generations.
10.6.4.1 That a wide range of activities be permitted in the General Coastal Zone, where their effects are compatible with the preservation of the natural character of the coastal environment.	The activities which will be residential in nature have been assessed as being appropriate and compatible on the proposed allotments.
10.6.4.2 That the visual and landscape qualities of the coastal environment be protected from inappropriate subdivision, use and development.	The proposal has been assessed on this basis and the effects on those qualities are low [less than minor].

<p>10.6.4.3 Subdivision, use and development shall preserve and where possible enhance, restore and rehabilitate the character of the zone in regards to s6 matters, and shall avoid adverse effects as far as practicable by using techniques including:</p> <p>(a) clustering or grouping development within areas where there is the least impact on natural character and its elements such as indigenous vegetation, landforms, rivers, streams and wetlands, and coherent natural patterns;</p> <p>(b) minimising the visual impact of buildings, development, and associated vegetation clearance and earthworks, particularly as seen from public land and the coastal marine area;</p> <p>(c) providing for, through siting of buildings and development and design of subdivisions, legal public right of access to and use of the foreshore and any esplanade areas;</p> <p>(d) through siting of buildings and development, design of subdivisions and provision of access, that recognise and provide for the relationship of Maori with their culture, traditions and taonga including concepts of mauri, tapu, mana, wehi and karakia and the important contribution Maori culture makes to the character of the District. (Refer Chapter 2 and in particular Section 2.5 and Council’s “Tangata Whenua Values and Perspectives (2004)”;</p> <p>(e) providing planting of indigenous vegetation in a way that links existing habitats of indigenous fauna and provides the opportunity for the extension, enhancement or creation of habitats for indigenous fauna, including mechanisms to exclude pests;</p> <p>(f) protecting historic heritage through the siting of buildings and development and design of subdivisions.</p>	<p>A clustering approach is not proposed as the building platforms proposed are considered to result in less than minor effects to the matters listed.</p> <p>Visual impact is mitigated by way of landscape controls at development stage.</p> <p>Public access is already provided around the entirety of the site.</p> <p>The subdivision has been designed to ensure that MS09-10 where it intersects with Lot 1 is free of development and will be protected in perpetuity.</p> <p>Additional planting is minor and linked to development within the building platform. Otherwise, the key mitigation measures are associated with protection of balance areas and ongoing pest and weed control.</p> <p>Historic heritage is limited on the site and the archaeological assessment does not require any additional permits / consents in this regard.</p>
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Matter	Assessment
10.6.4.4 That controls be imposed to ensure that the potentially adverse effects of activities are avoided, remedied or mitigated as far as practicable.	A series of controls are imposed over and above permitted activity limits in the LVIA.
10.6.4.5 Maori are significant landowners in the General Coastal Zone and therefore activities in the zone should recognise and provide for the relationship of Maori and their culture and traditions, with their ancestral lands, water, sites, waahi tapu and other taonga and shall take into account the principles of the Treaty of Waitangi.	Not relevant.
10.6.4.6 The design, form, location and siting of earthworks shall have regard to the natural character of the landscape including terrain, landforms and indigenous vegetation and shall avoid, remedy or mitigate adverse effects on those features.	Earthworks are not a critical component of this application outside of roading works required to provide enhanced access.

Table 7 – Subdivision Assessment

Matter	Assessment
13.3.1 To provide for the subdivision of land in such a way as will be consistent with the purpose of the various zones in the Plan and will promote the sustainable management of the natural and physical resources of the District, including airports and the social, economic and cultural wellbeing of people and communities.	This is considered to be achieved, creating the right balance between increased density and subdivision, whilst balancing the effects to ecology, landscape, maori values, and archaeology.
13.3.2 To ensure that subdivision of land is appropriate and is carried out in a manner that does not compromise the life-supporting capacity of air, water, soil or ecosystems, and that any actual or potential adverse effects on the environment which result directly or indirectly from subdivision, including reverse sensitivity effects, are avoided, remedied or mitigated.	Refer to report above. These matters are considered to be, at the least, mitigated.

Matter	Assessment
13.3.3 To ensure that the subdivision of land does not jeopardise the protection of outstanding landscapes or natural features in the coastal environment.	These are not relevant to the site.
13.3.4 To ensure that subdivision does not adversely affect scheduled heritage resources through alienation of the resource from its immediate setting/context.	No alienation is proposed.
13.3.5 To ensure that all new subdivisions provide a reticulated water supply and/or on-site water storage sufficient to meet the needs of the activities that will establish all year round.	On site water is promoted.
13.3.6 To encourage innovative development and integrated management of effects between subdivision and land use which results in superior outcomes to more traditional forms of subdivision, use and development, for example the protection, enhancement and restoration of areas and features which have particular value or may have been compromised by past land management practices.	The proposal is considered to be innovative in approach in terms of protecting large areas of bush in order to avoid effects whilst promoting modest subdivision rights in terms of density.
13.3.7 To ensure the relationship between Maori and their ancestral lands, water, sites, wahi tapu and other taonga is recognised and provided for.	Refer report above.

Matter	Assessment
<p>13.4.1 That the sizes, dimensions and distribution of allotments created through the subdivision process be determined with regard to the potential effects including cumulative effects, of the use of those allotments on:</p> <ul style="list-style-type: none"> (a) natural character, particularly of the coastal environment; (b) ecological values; (c) landscape values; (d) amenity values; (e) cultural values; (f) heritage values; and (g) existing land uses. 	<p>Refer report above and associated reports. This is considered to be achieved.</p>
<p>13.4.2 That standards be imposed upon the subdivision of land to require safe and effective vehicular and pedestrian access to new properties.</p>	<p>This is considered to be provided.</p>
<p>13.4.3 That natural and other hazards be taken into account in the design and location of any subdivision.</p>	<p>This is considered to be provided.</p>
<p>13.4.4 That in any subdivision where provision is made for connection to utility services, the potential adverse visual impacts of these services are avoided.</p>	<p>This is considered to be provided.</p>
<p>13.4.5 That access to, and servicing of, the new allotments be provided for in such a way as will avoid, remedy or mitigate any adverse effects on neighbouring property, public roads, and the natural and physical resources of the site caused by silt runoff, traffic, excavation and filling and removal of vegetation.</p>	<p>Each site can be appropriately serviced and consent conditions at time of development can manage effects associated with the matters listed.</p>

Matter	Assessment
<p>13.4.6 That any subdivision proposal provides for the protection, restoration and enhancement of heritage resources, areas of significant indigenous vegetation and significant habitats of indigenous fauna, threatened species, the natural character of the coastal environment and riparian margins, and outstanding landscapes and natural features where appropriate.</p>	<p>This is promoted through the proposal in terms of vegetation.</p>
<p>13.4.7 That the need for a financial contribution be considered only where the subdivision would:</p> <ul style="list-style-type: none"> (a) result in increased demands on car parking associated with non-residential activities; or (b) result in increased demand for esplanade areas; or (c) involve adverse effects on riparian areas; or (d) depend on the assimilative capacity of the environment external to the site. 	<p>Not relevant.</p>
<p>13.4.8 That the provision of water storage be taken into account in the design of any subdivision.</p>	<p>This is provided.</p>
<p>13.4.9 That bonus development donor and recipient areas be provided for so as to minimise the adverse effects of subdivision on Outstanding Landscapes and areas of significant indigenous flora and significant habitats of fauna.</p>	<p>Not relevant.</p>
<p>13.4.10 The Council will recognise that subdivision within the Conservation Zone that results in a net conservation gain is generally appropriate.</p>	<p>Not relevant.</p>

Matter	Assessment
<p>13.4.11 That subdivision recognises and provides for the relationship of Maori and their culture and traditions, with their ancestral lands, water, sites, waahi tapu and other taonga and shall take into account the principles of the Treaty of Waitangi.</p>	<p>This has been recognised and provided for.</p>
<p>13.4.12 That more intensive, innovative development and subdivision which recognises specific site characteristics is provided for through the management plan rule where this will result in superior environmental outcomes.</p>	<p>The management plan rule has been used as a basis but as above, the requirement for a centralised management body will not achieve the management requirements any better than private and individual ownership of the bush areas.</p>
<p>13.4.13 Subdivision, use and development shall preserve and where possible enhance, restore and rehabilitate the character of the applicable zone in regard to s6 matters, and shall avoid adverse effects as far as practicable by using techniques including:</p> <ul style="list-style-type: none"> (a) clustering or grouping development within areas where there is the least impact on natural character and its elements such as indigenous vegetation, landforms, rivers, streams and wetlands, and coherent natural patterns; (b) minimising the visual impact of buildings, development, and associated vegetation clearance and earthworks, particularly as seen from public land and the coastal marine area; (c) providing for, through siting of buildings and development and design of subdivisions, legal public right of access to and use of the foreshore and any esplanade areas; (d) through siting of buildings and development, design of subdivisions, and provision of access that recognise and provide for the relationship of Maori with their culture, traditions and taonga including concepts of mauri, tapu, mana, wehi and karakia and the important contribution Maori culture makes to the character of the District (refer Chapter 2 and in 	<p>Refer to the assessment in the tables above.</p>

Matter	Assessment
<p>particular Section 2.5 and Council’s “Tangata Whenua Values and Perspectives” (2004);</p> <p>(e) providing planting of indigenous vegetation in a way that links existing habitats of indigenous fauna and provides the opportunity for the extension, enhancement or creation of habitats for indigenous fauna, including mechanisms to exclude pests;</p> <p>(f) protecting historic heritage through the siting of buildings and development and design of subdivisions.</p>	
<p>13.4.14 That the objectives and policies of the applicable environment and zone and relevant parts of Part 3 of the Plan will be taken into account when considering the intensity, design and layout of any subdivision.</p>	<p>Refer tables above.</p>

73. Overall, it is considered that the proposed dwelling development would not be contrary to any applicable District Plan objective or policy.

6.4 FNDC Proposed District Plan Objectives and Policies

74. The relevant objectives are those associated with the Coastal Environment and Rural Production Zone of the PDP. These are addressed below.

Table 8 – Coastal Environment Overlay

Matter	Assessment
<p>CE-O1 - The natural character of the coastal environment is identified and managed to ensure its long-term preservation and protection for current and future generations.</p>	<p>The coastal environment is identified with associated rules within the Proposed District Plan.</p>
<p>CE-O2 - Land use and subdivision in the coastal environment:</p> <ul style="list-style-type: none"> a. preserves the characteristics and qualities of the natural character of the coastal environment; b. is consistent with the surrounding land use; 	<p>The proposal is anticipated to fit within the coastal environment with minimal adverse effects given the mitigation measures and consistency of development with neighbouring sites.</p>

<ul style="list-style-type: none"> c. does not result in urban sprawl occurring outside of urban zones; d. promotes restoration and enhancement of the natural character of the coastal environment; and e. recognises tangata whenua needs for ancestral use of whenua Māori. 	
<p>CE-O3 - Land use and subdivision in the coastal environment within urban zones is of a scale that is consistent with existing built development.</p>	<p>The site is not within an urban zone.</p>
<p>CE-P1 - Identify the extent of the coastal environment as well as areas of high and outstanding natural character using the assessment criteria in APP1- Mapping methods and criteria.</p>	<p>This is done within the Proposed District Plan maps.</p>
<p>CE-P2 - Avoid adverse effects of land use and subdivision on the characteristics and qualities of the coastal environment identified as:</p> <ul style="list-style-type: none"> a. outstanding natural character; b. ONL; c. ONF. 	<p>The site does not contain any of these features.</p>
<p>CE-P3 - Avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of land use and subdivision on the characteristics and qualities of the coastal environment not identified as:</p> <ul style="list-style-type: none"> a. outstanding natural character; b. ONL; c. ONF. 	<p>The site does not contain any of these features.</p>
<p>CE-P4 - Preserve the visual qualities, character and integrity of the coastal environment by:</p> <ul style="list-style-type: none"> a. consolidating land use and subdivision around existing urban centres and rural settlements; and b. avoiding sprawl or sporadic patterns of development. 	<p>The proposal is not anticipated to adversely affect the visual qualities and character associated with the coastal environment.</p>

<p>CE-P5 - Enable land use and subdivision in urban zones within the coastal environment where:</p> <ul style="list-style-type: none"> a. there is adequacy and capacity of available or programmed development infrastructure; and b. the use is consistent with, and does not compromise the characteristics and qualities. 	<p>The site is not within an urban zone.</p>
<p>CE-P6 - Enable farming activities within the coastal environment where:</p> <ul style="list-style-type: none"> a. the use forms part of the values that established natural character of the coastal environment; or b. the use is consistent with, and does not compromise the characteristics and qualities. 	<p>The proposal does not relate to farming.</p>
<p>CE-P7 - Provide for the use of Māori Purpose zoned land and Treaty Settlement land in the coastal environment where:</p> <ul style="list-style-type: none"> a. the use is consistent with the ancestral use of that land; and b. the use does not compromise any identified characteristics and qualities. 	<p>The site does not relate to Māori Purpose zoned land and Treaty Settlement land.</p>
<p>CE-P8 - Encourage the restoration and enhancement of the natural character of the coastal environment.</p>	<p>This is provided through bush protection and ongoing pest and weed control.</p>
<p>CE-P9 - Prohibit land use and subdivision that would result in any loss and/or destruction of the characteristics and qualities in outstanding natural character areas.</p>	<p>The site is not within an outstanding natural character area.</p>
<p>CE-P10 - Manage land use and subdivision to preserve and protect the natural character of the coastal environment, and to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application:</p> <ul style="list-style-type: none"> a. the presence or absence of buildings, structures or infrastructure; 	<p>These aspects are covered within the application above, all with effects that are less than minor in nature.</p>

<ul style="list-style-type: none"> b. the temporary or permanent nature of any adverse effects; c. the location, scale and design of any proposed development; d. any means of integrating the building, structure or activity; e. the ability of the environment to absorb change; f. the need for and location of earthworks or vegetation clearance; g. the operational or functional need of any regionally significant infrastructure to be sited in the particular location; h. any viable alternative locations for the activity or development; i. any historical, spiritual or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6; j. the likelihood of the activity exacerbating natural hazards; k. the opportunity to enhance public access and recreation; l. the ability to improve the overall quality of coastal waters; and m. any positive contribution the development has on the characteristics and qualities. 	
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Table 9 – Rural Production Zone

Matter	Assessment
RPROZ-O1 - The Rural Production zone is managed to ensure its availability for primary production activities and its long-term protection for current and future generations.	The proposed zoning is not entirely appropriate given that the majority of the site is in relatively significant regenerating bush.
RPROZ-O2 - The Rural Production zone is used for primary production activities, ancillary activities that support primary production and other compatible activities that have a functional need to be in a rural environment.	As above.

<p>RPROZ-O3 - Land use and subdivision in the Rural Production zone:</p> <ul style="list-style-type: none"> a) protects highly productive land from sterilisation and enables it to be used for more productive forms of primary production; b) protects primary production activities from reverse sensitivity effects that may constrain their effective and efficient operation; c) does not compromise the use of land for farming activities, particularly on highly productive land; d) does not exacerbate any natural hazards; and e) is able to be serviced by on-site infrastructure. 	<p>The land has no highly productive land. All surrounding activities are residential in nature. Farming is not a predominant activity. Natural hazards are only present on the coastal fringes and not where development is proposed. Each new site can be serviced.</p>
<p>RPROZ-O4 - The rural character and amenity associated with a rural working environment is maintained.</p>	<p>Refer to the LVIA.</p>
<p>RPROZ-P1 Enable primary production activities, provided they internalise adverse effects onsite where practicable, while recognising that typical adverse effects associated with primary production should be anticipated and accepted within the Rural Production zone.</p>	<p>As above, this would not be appropriate in this context.</p>
<p>RPROZ-P2 - Ensure the Rural Production zone provides for activities that require a rural location by:</p> <ul style="list-style-type: none"> a) enabling primary production activities as the predominant land use; b) enabling a range of compatible activities that support primary production activities, including ancillary activities, rural produce manufacturing, rural produce retail, visitor accommodation and home businesses. 	<p>Noted, however these are not proposed as the predominant land use.</p>

<p>RPROZ-P3 - Manage the establishment, design and location of new sensitive activities and other non-productive activities in the Rural Production Zone to avoid where possible, or otherwise mitigate, reverse sensitivity effects on primary production activities.</p>	<p>Not relevant.</p>
<p>RPROZ-P4 - Land use and subdivision activities are undertaken in a manner that maintains or enhances the rural character and amenity of the Rural Production zone, which includes:</p> <ul style="list-style-type: none"> a) a predominance of primary production activities; b) low density development with generally low site coverage of buildings or structures; c) typical adverse effects such as odour, noise and dust associated with a rural working environment; and d) a diverse range of rural environments, rural character and amenity values throughout the District. 	<p>The overall proposal has considered these matters with an overall conclusion that the approach is acceptable.</p>
<p>RPROZ-P5 - Avoid land use that:</p> <ul style="list-style-type: none"> a) is incompatible with the purpose, character and amenity of the Rural Production zone; b) does not have a functional need to locate in the Rural Production zone and is more appropriately located in another zone; c) would result in the loss of productive capacity of highly productive land; d) would exacerbate natural hazards; and e) cannot provide appropriate on-site infrastructure. 	<p>The proposal is compatible with the surrounds which are more coastal than rural in nature. Residential use has a functional need to be located in the coastal environment as people have been habituating these areas for generations. The site is not highly productive. The site is not impacted by natural hazards that would limit the proposal. Each site can be serviced.</p>
<p>RPROZ-P6 - Avoid subdivision that:</p> <ul style="list-style-type: none"> a) results in the loss of highly productive land for use by farming activities; b) fragments land into parcel sizes that are no longer able to 	<p>Refer above.</p>

<p>support farming activities, taking into account:</p> <ul style="list-style-type: none"> c) the type of farming proposed; and d) whether smaller land parcels can support more productive forms of farming due to the presence of highly productive land. e) provides for rural lifestyle living unless there is an environmental benefit. 	
<p>RPROZ-P7 - Manage land use and subdivision to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application:</p> <ul style="list-style-type: none"> a) whether the proposal will increase production potential in the zone; b) whether the activity relies on the productive nature of the soil; c) consistency with the scale and character of the rural environment; d) location, scale and design of buildings or structures; e) for subdivision or non-primary production activities: f) scale and compatibility with rural activities; g) potential reverse sensitivity effects on primary production activities and existing infrastructure; h) the potential for loss of highly productive land, land sterilisation or fragmentation i) at zone interfaces: j) any setbacks, fencing, screening or landscaping required to address potential conflicts; k) the extent to which adverse effects on adjoining or surrounding sites are 	<p>These matters have been addressed within the application.</p>

<p>mitigated and internalised within the site as far as practicable;</p> <p>l) the capacity of the site to cater for on-site infrastructure associated with the proposed activity, including whether the site has access to a water source such as an irrigation network supply, dam or aquifer;</p> <p>m) the adequacy of roading infrastructure to service the proposed activity;</p> <p>n) Any adverse effects on historic heritage and cultural values, natural features and landscapes or indigenous biodiversity;</p> <p>o) Any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.</p>	
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6.5 Proposed Far North District Plan Objectives & Policies & Weighting

75. Section 88A(2) provides that “any plan or proposed plan which exists when the application is considered must be had regard to in accordance with section 104(1)(b).” This requires applications to be assessed under both the operative and proposed objective and policy frameworks from the date of notification of the proposed district plan.

76. In the event of differing directives between objective and policy frameworks, it is well established by case law that the weight to be given to a proposed district plan depends on what stage the relevant provisions have reached, the weight generally being greater as a proposed plan move through the notification and hearing process. In *Keystone Ridge Ltd v Auckland City Council*³, the High Court held that the extent to which the provisions of a proposed plan are relevant should be considered on a case by case basis and might include:

- The extent (if any) to which the proposed measure might have been exposed to testing and independent decision making;
- Circumstances of injustice; and
- The extent to which a new measure, or the absence of one, might implement a coherent pattern of objectives and policies in a plan.

77. In my view the PDP has not gone through the sufficient process to allow a considered view of the objectives and policies for the Rural Production Zone with a Coastal Environment overlay

however this has been provided. The assessment of the relevant objectives and policies from the ODP and the PDP has concluded these can be met by the proposal.

7.0 SECTION 5 - PURPOSE OF THE ACT

78. Section 5 in Part 2 of the Act identifies the purpose as being the sustainable management of natural and physical resources. This means managing the use of natural and physical resources in a way that enables people and communities to provide for their social, cultural and economic well-being which sustain those resources for future generations, protecting the life supporting capacity of ecosystems, and avoiding remedying or mitigating adverse effects on the environment.

79. It is considered that proposal represents Part 2, Section 5 of the Act.

7.1 Section 6 - Matters of National Importance

80. In achieving the purpose of the Act, a range of matters are required to be recognised and provided for. This includes:

- a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:
- b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:
- c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:
- d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:
- e) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga:
- f) the protection of historic heritage from inappropriate subdivision, use, and development:
- g) the protection of protected customary rights:
- h) the management of significant risks from natural hazards.

81. In context, the relevant items to the proposal and have been recognised and provided for.

7.2 Section 7 - Other Matters

82. In achieving the purpose of the Act, a range of matters are to be given particular regard. This includes:

- (a) kaitiakitanga:
- (aa) the ethic of stewardship:

- (b) the efficient use and development of natural and physical resources:
- (ba) the efficiency of the end use of energy:
- (c) the maintenance and enhancement of amenity values:
- (d) intrinsic values of ecosystems:
- (e) [Repealed]
- (f) maintenance and enhancement of the quality of the environment:
- (g) any finite characteristics of natural and physical resources:
- (h) the protection of the habitat of trout and salmon:
- (i) the effects of climate change:
- (j) the benefits to be derived from the use and development of renewable energy.

83. These matters have been given particular regard through the design of the proposal.

7.3 Section 8 - Treaty of Waitangi

84. The Far North District Council is required to take into account the principles of the Treaty of Waitangi when processing this consent. This consent application may be sent to local Iwi and hapū who may have an interest in this application.

8.0 CONCLUSION

85. A Non Complying Activity resource consent is sought from the Far North District Council to carry out the land use and subdivision activity.
86. The proposal is considered to result in less than minor effects on the environment and through assessment, there are no minor or more than minor effects to persons.
87. The proposal is consistent with the objectives and policies of the Far North District Plan, the Regional Policy Statement for Northland, and achieves the purpose of the Act.
88. Relevant NPS' and NES' have been considered with the proposal finding consistency with their general aims and intent.



Steven Sanson
Consultant Planner



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD**



**Guaranteed Search Copy issued under Section 60 of the Land
Transfer Act 2017**



Identifier **1182447**
Land Registration District **North Auckland**
Date Issued 12 July 2024

Prior References

NA1535/36 NA20C/1229

Estate Fee Simple
Area 21.2147 hectares more or less
Legal Description Lot 1 Deposited Plan 604018 and
Allotment 271 Parish of Kawakawa

Registered Owners

Sielia Limited

Interests

Subject to Section 59 Land Act 1948 (affects Allotment 271 Parish of Kawakawa)

Appurtenant to Allotment 271 Parish of Kawakawa herein is a right of way created by Transfer 775349.1 - 25.9.1980 at 12:12 pm

Appurtenant to Allotment 271 Parish of Kawakawa herein is a pedestrian access created by Deed of Easement NAPR93C/587 - 15.6.1994 at 2:18 pm

D574559.1 Gazette Notice (46/1021) declaring the entire length of State Highway No.11 Far North District commencing at the intersection with State Highway No.1 at Kawakawa and proceeding in a northern direction to the southern boundary of Paihia township to be a Limited Access Road - 25.1.2001 at 12.09 pm

D574907.1 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 25.1.2001 at 3:31 pm (affects Allotment 271 Parish of Kawakawa)

12055652.1 Surrender of the right of way over part marked F on DP 80633 created by Transfer 775349.1 appurtenant hereto - 21.4.2021 at 2:03 pm

Appurtenant hereto is a right of way created by Easement Instrument 12055652.2 - 21.4.2021 at 2:03 pm

Subject to a right of way over part Allotment 271 Parish of Kawakawa marked C on DP 516235 created by Easement Instrument 12055652.3 - 21.4.2021 at 2:03 pm

Appurtenant to Lot 1 DP 604018 is a right of way created by Easement Instrument 12055652.3 - 21.4.2021 at 2:03 pm

Subject to Section 241(2) Resource Management Act 1991 (affects DP 604018)

13026543.4 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 12.7.2024 at 10:11 am (affects Lot 1 DP 604018)

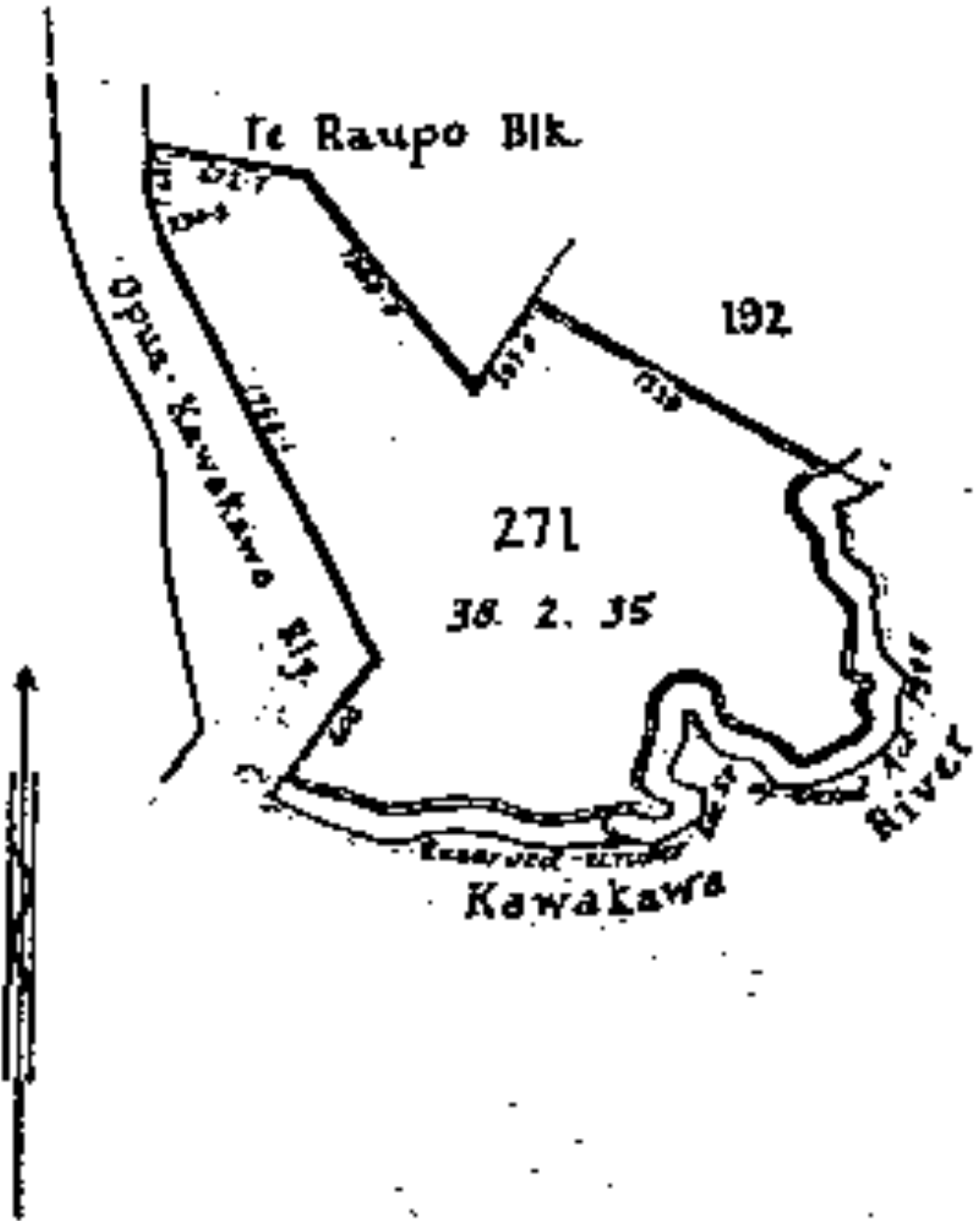
Subject to a right of way and a right to convey electricity, telecommunications and water over part Lot 1 DP 604018 marked A on DP 604018 created by Easement Instrument 13026543.5 - 12.7.2024 at 10:11 am

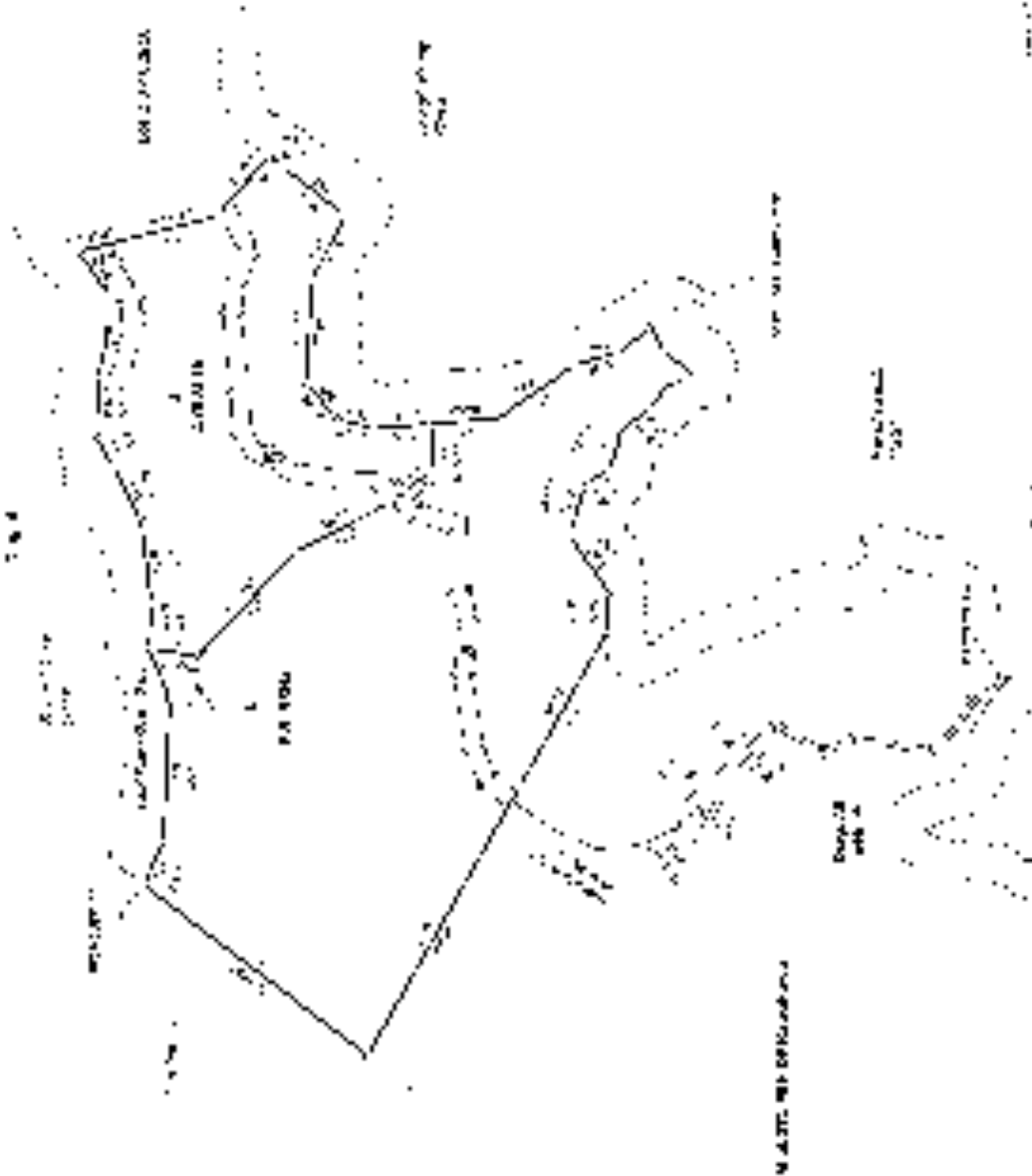
The easements created by Easement Instrument 13026543.5 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right of way and a right to convey electricity, telecommunications and water over part Lot 1 DP 604018 marked A on DP 604018 and over part Allotment 271 Parish of Kawakawa marked C on DP 516235 created by Easement Instrument 13026543.6 - 12.7.2024 at 10:11 am

Subject to a right of way over part Allotment 271 Parish of Kawakawa marked D on DP 60418 created by Easement Instrument 13026543.7 - 12.7.2024 at 10:11 am

13026543.8 Mortgage to Bank of New Zealand - 12.7.2024 at 10:11 am





Title: LI 1049, 2
 Scanned: 20080505
 Date: 04/12/24 3:43 pm
 Client Reference: Quickmap



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THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING RC-2240273-RMASUB

Being the Subdivision of ALLOTMENT 192 PARISH OF KAWAKAWA and LOT 1 DP 62916 (RT: NA20C/1229) and ALLOTMENT 271 PARISH OF KAWAKAWA (RT: NA1335/36) North Auckland Registry

PURSUANT to Section 221 and for the purpose of Section 224 (c) (ii) of the Resource Management Act 1991, this Consent Notice is issued by the **FAR NORTH DISTRICT COUNCIL** to the effect that conditions described in the schedule below are to be complied with on a continuing basis by the subdividing owner and the subsequent owners after the deposit of the survey plan, and these are to be registered on the titles of the allotments specified below.

SCHEDULE

Lot 1 and 2 DP 604018

- a) Reticulated power supply or telecommunication services are not a requirement of this subdivision consent. The responsibility for providing both power supply and telecommunication services will remain the responsibility of the property owner.
- b) The site is identified as being within a kiwi present zone. Any cats and/or dogs kept onsite must be kept inside and/or tied up at night to reduce the risk of predation of North Island brown kiwi by domestic cats and dogs.
- c) At the time of lodging an application for building consent for any habitable building on any of the lots the building applicant is to provide a report from a Chartered Professional Engineer with recognised competence in relevant geotechnical and structural matters, which addresses the site's investigation undertaken, sets out the specific design of the building's foundations.
- d) In conjunction with the construction of any dwelling, and in addition to a potable water supply, a water collection system with sufficient supply for firefighting purposes is to be provided by way of a tank or other approved means and to be positioned so that it is safely accessible for this purpose. These provisions must be in accordance with the New Zealand Fire Fighting Water Supply Code of Practice SNZ PAS 4509.



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- e) In conjunction with the construction of any building which includes a wastewater treatment & effluent disposal system the applicant shall submit for Council approval an ES-SEW1 Report prepared by an appropriately experienced person and in accordance with Far North District Council Engineering Standards 2023. The report shall identify a suitable method of wastewater treatment for the proposed development along with an identified effluent disposal area plus a 100% reserve disposal area. The report shall confirm that all of the treatment & disposal system can be fully contained within the lot boundary and comply with the Regional Water & Soil Plan Permitted Activity Standards.

For on-site wastewater disposal system:

- (i). The installation shall include an agreement with the system supplier or its authorised agent for the ongoing operation and maintenance of the wastewater treatment plant and the effluent disposal system.
- (ii). Following 12 months of operation of the wastewater treatment and effluent disposal system the lot owner shall provide certification to Council that the system is operating in accordance with its design criteria.
- (iii). Overland/secondary flowpaths that can accommodate the 1% AEP storm event must also be provided on the proposed Lot and are to be unobstructed by new buildings, other structures or landscaping. [Lot 1 and 2]

A handwritten signature in cursive script, appearing to read "Trish Routley".

SIGNED:

Ms Patricia (Trish) Routley - Authorised Officer
By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
MANAGER – RESOURCE CONSENTS

DATED at **KERIKERI** this 10th day of May 2024.



EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY	(A) (B)	LOT 3 HEREON	E.I. 12055652.3
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(C)	LOT 2 HEREON	RC2240273 (LOT 2 DP 62916)
RIGHT OF WAY	(D)	LOT 5 HEREON	RC2240273 (LOT 2 LT 604018)

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS & ELECTRICITY	(A) (B)	LOT 3 HEREON	LOTS 1 & 2 HEREON

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AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council

Comprised in: TITLE REF AWAITING COMPLETION OF RC 2240273

Total Area: 21.2147Ha

This plan and accompanying report(s) have been prepared for the purpose of obtaining a Resource Consent only and for no other purpose. Use of this plan and/or information on it for any other purpose is at the user's risk.



Bar Scale 1:3000 @ A3

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Registered Land Surveyors, Planners & Land Development Consultants

**PROPOSED SUBDIVISION OF ALLOTMENT 271
 PSH OF KAWAKAWA & LOT 1 LT 604018 (RC 2240273)
 154 TE RAUPO ROAD, OPUA**

PREPARED FOR: S. MASON

Name	Date	ORIGINAL	SHEET SIZE
Survey		SCALE 1:3000	A3
Design			
Drawn	KY 11.07.24		
Approved			
Rev			
9112 Scheme 20240711			




Surveyors Ref. No:

9112

Sheet 1 of 1

SITE	154 Te Raupo Road, Opua
LEGAL DESCRIPTION	Allot 271 PSH OF Kawakawa & Allot 192 PSH OF Kawakawa
PROJECT	3-Lot Subdivision (Lots 1 and 2 for Assessment)
CLIENT	Terroir Ltd
REFERENCE NO.	135301
DOCUMENT	Geotechnical Site Suitability Report
STATUS/REVISION NO.	FINAL – Resource Consent for 3-Lot Subdivision
DATE OF ISSUE	11 September 2024

Report Prepared For	Email
Terroir Ltd	stephen@terroirltd.co.nz

Authored by	S. Page <i>Part Dip. (Civil)</i>	Engineering Technician	shaun@wjl.co.nz	
Reviewed by	N. Ngaropo <i>BSc (Geology)</i>	Engineering Geologist	nikora@wjl.co.nz	
Approved by	D. Soric (BE, CMEngNZ, CPEng)	Senior Geotechnical Engineer	damir@wjl.co.nz	

1 EXECUTIVE SUMMARY

The following table is intended to be a concise summary which must be read in conjunction with the relevant report sections as referenced herein.

Development Type:	3-Lot Subdivision (Lots 1 and 2 for Assessment).
District Plan Zone:	General Coastal Zone.
Development Proposals Supplied:	Yes – Subdivision Scheme Plan (1 sheet)
Proposed Lot Sizes:	Lot 1 – 8.5320ha, Lot 2 – 5.5458ha, Lot 3 – 7.1369ha.
Geology Encountered:	Waipapa Group.
Overall Site Gradient:	Designated Building Platforms (DBP) are on near-level intact ridge crests bordered by moderate to steep side flanks.
Natural Hazards:	<p>Stability: Overall Low Risk of deep-seated global instability however, the risk of shallow soil creep and/or movement requires mitigation via leading-edge soil creep piles installed beneath the:</p> <ul style="list-style-type: none"> • South-western and north-eastern leading-edges of any future dwelling within the DBP at proposed Lot 1, and • North-western and south-eastern leading-edges of any future dwelling within the DBP at proposed Lot 2. <p>Liquefaction: Negligible risk of liquefaction susceptibility.</p>
Soil Creep Piles:	New residential dwellings at proposed Lot 1 and 2 would be better suited for timber subfloor construction, suspended on bored, concrete-encased, tanalised timber piles. Dwellings should generally be designed to traverse the assessed crest areas in allowing further stability margins. At this preliminary stage and at minimum , all leading-edge soil creep piles should be designed to resist a loss of lateral soil support to a minimum depth of 2.0m bpgl and be embedded a minimum of 4.0m bpgl. Design must commence following site-specific Geotechnical assessments in supporting future Building Consent (BC) applications. A separate in-ground soldier pile type wall(s) may need to be considered for any proposed concrete slab construction, as opposed to leading-edge soil creep piles.
Shallow Soil Bearing Capacity:	Yes – Natural Soils & Engineered Hardfill. Geotechnical Ultimate Bearing Capacity = 300kPa .
NZBC B1 Expansive Soil Classification :	Class H – Highly Expansive ($\gamma_s = 78\text{mm}$).
NZS1170.5:2004 Site Subsoil Classification:	Class C – Shallow soil stratigraphy.
Earthworks:	It is recommended no earthworks are undertaken across the proposed Lot 1 and 2 DBP's until development proposals have been formulated and assessed by a suitably qualified Geo-Professional during the BC phase.
Further Review Required:	This report is not intended to support any BC application regarding future residential construction at proposed Lot 1 and 2. All future residential construction will require site-specific Geotechnical assessment once development proposals have been formulated.
Report Suitable For	Resource Consent for Subdivision

2 INTRODUCTION

2.1 SCOPE OF WORK

Wilton Joubert Limited (WJL) was engaged by the client, **Terroir Ltd**, to undertake a geotechnical site suitability assessment of ground conditions at the above site, where we understand, it is proposed to subdivide the existing General Coastal block into three individual allotments.

The purpose of this report is to provide Geotechnical assessments and preliminary recommendations pertaining to future residential construction within Designated Building Platforms (DBP) on proposed Lots 1 and 2.

Proposed Lot 3 contains an existing habitable shed and no assessments pertaining to the proposed allotment are provided herein.

It is our understanding that this report will be submitted as part of the Resource Consent application for the proposed development.

We have been advised that the approximate eastern third of subject **Allot 192 PSH OF Kawakawa** is currently in the process of being subdivided in creating a separate allotment. All assessments regarding this subject proposal are outside our scope of work for subject proposal of this report.

Additionally, our scope does not include any:

- Environmental assessments of site subsoils or groundwater, or
- Civil assessments, including flooding.

2.2 SUPPLIED INFORMATION

Our assessment is based on the following supplied documentation, which is appended to this report:

- Subdivision Scheme Plan, titled; '*Proposed Subdivision of Allotment 271 PSH OF Kawakawa & Lot 1 LT 604018 (RC 2240273)*', prepared by Thomson Survey, dated 11 July 2024 (ref: 9112).

No architectural drawings or plans regarding future residential construction have been provided. As such, DBP's have been identified within proposed Lot 1 and 2 for Geotechnical assessment, as depicted in our appended Site Plan (ref: 135301-G600).

Any revision of the supplied Subdivision Scheme Plan and/or development proposals with Geotechnical implications should be referred to us for review.

This report is not intended to support any Building Consent (BC) application regarding future residential construction at proposed Lot 1 and 2. All future residential construction will require site-specific Geotechnical assessment once development proposals have been formulated.



Figure 1: Screenshot of the supplied Subdivision Scheme Plan.

3 SITE DESCRIPTION

The combined 23.2567ha General Coastal zoned adjoining blocks are located on the south-eastern outskirts of the Opua district, overlooking the Kawakawa River tidal environment. The blocks are currently accessed at the south-western boundary of subject **Allot 271 PSH OF Kawakawa**, 770m southeast of the Te Raupo Road intersection via a shared right-of-way (ROW). The ROW traverses through neighbouring allotment Sec 4 BLK XII Kawakawa SD and the inactive Opua-Kawakawa Railway Track to the west. The ROW then traverses west to east through the subject blocks, providing access to two neighbouring allotments at the eastern boundary of subject **Allot 192 PSH OF Kawakawa**.

The densely bush-covered blocks are set around a prominent ridgeline that straddles most of the noted ROW. The ridgeline is bound by the Kawakawa River to the north and south and is generally elevated approximately 40m above. Moderate to steeply sloping side flanks fall to the northwest and southeast from the ridgeline. A prominent spur trends from the ridgeline towards the northwest at the western end of the blocks, with additional southeast trending spurs present at the southern and south-eastern areas. Numerous steeper gully features are scattered throughout.

At the eastern end of the blocks, a southwest to northeast trending, former access track is located slightly above the ROW, to the northwest.

At the time of preparing this report, we note that the Far North District Council (FNDC) on-line GIS Water Services Map indicates that reticulated water, wastewater, and stormwater service connections are not available to the property.



Figure 2: Screenshot aerial view of the from Google Earth. Red circle approximately depicts subject development location.



Figure 3: Screenshot aerial view of the subject site from the FNDC on-line GIS Property and Land Map. Subject Allot 271 PSH OF Kawakawa block site is highlighted in cyan.

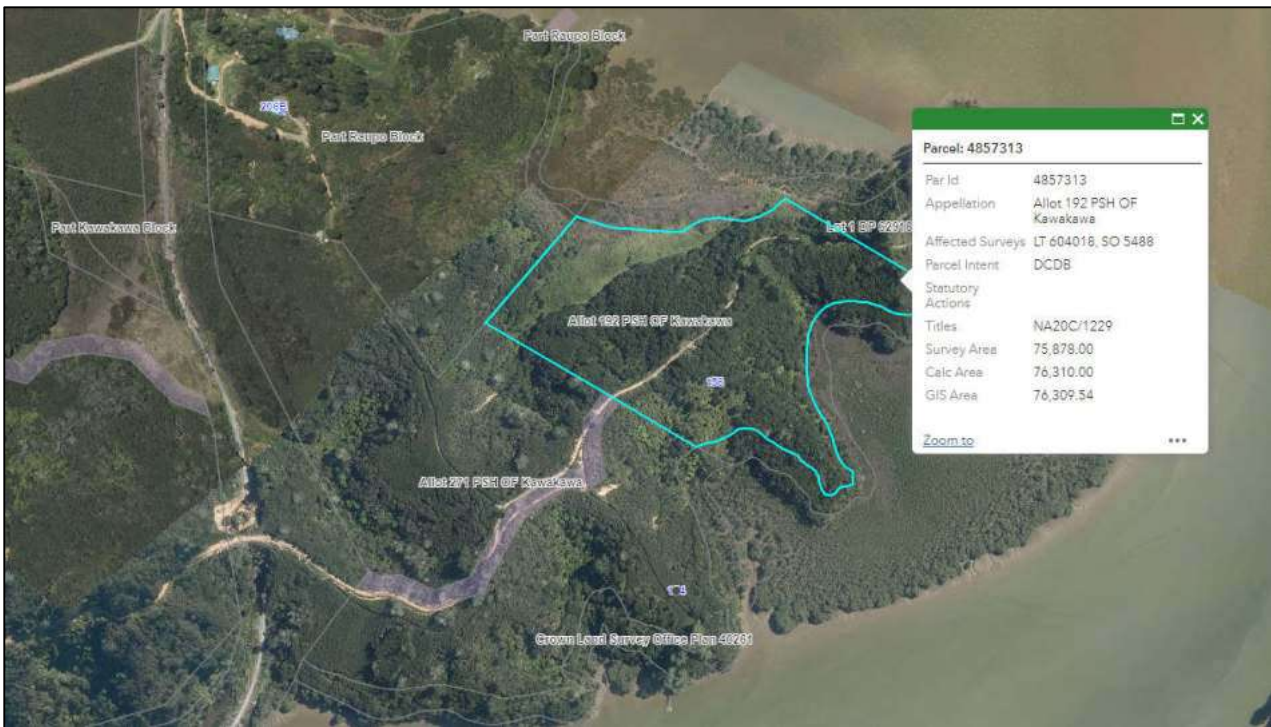


Figure 4: Screenshot aerial view of the subject site from the FNDC on-line GIS Property and Land Map. Subject Allot 192 PSH OF Kawakawa block site is highlighted in cyan.

4 PROPOSAL

In reviewing the supplied Subdivision Scheme Plan (refer Figure 1 and attached in appendices) it is our understanding that the client intends to subdivide the existing General Coastal block into three individual allotments, comprising of two Lots suitable for new residential construction and a third Lot, containing an existing habitable shed.

Proposed Lot 1 is to encompass an area of 8.5320ha across the western third of the development area. The Lot generally covers the prominent northern spur and surrounding side flanks.

Proposed Lot 2 is to encompass an area of 5.5458ha across the eastern third of the development area. The Lot generally covers the former access track that straddles the ridgeline crest and surrounding side flanks, as well as south-eastern spur.

Proposed Lot 1 and 2 will be accessed via new driveway formations that will trend from the existing ROW.

Proposed Lot 3 is to encompass an area of 7.1369ha across the southern third of the development area. The Lot contains an existing habitable shed and driveway formation. No further assessments pertaining to the proposed allotment are to be provided herein.

The purpose of this report is to provide Geotechnical assessments and preliminary recommendations pertaining to future residential construction within identified DBP's, as depicted on our appended Site Plans (ref: 135301-G601 and 135301-G602), at proposed Lot 1 and 2.



Figure 5: Drone photograph looking towards proposed Lot 1 DBP (southwest direction). Red circle approximately depicts DBP.



Figure 6: Drone photograph looking towards proposed Lot 1 DBP (northeast direction). Red circle approximately depicts DBP.



Figure 7: Drone photograph looking towards proposed Lot 2 DBP (southeast direction). Red circle approximately depicts DBP.



Figure 8: Drone photograph looking towards proposed Lot 2 DBP (northeast direction). Red circle approximately depicts DBP.



Figure 9: Site photograph of the Lot 2 DBP (northeast direction).

5 DESKTOP STUDY

5.1 PUBLISHED GEOLOGY

Local geology across the property and wider surrounding area is noted on the GNS Science New Zealand Geology Web Map, Scale 1:250,000, as; **Waipapa Group Sandstone and Siltstone (Waipapa Terrane)**. These deposits are approximately 154 to 270 million years in age and described as; “Massive to thin bedded, lithic volcanoclastic metasandstone and argillite, with tectonically enclosed basalt, chert, and siliceous argillite” (ref: GNS Science Website).



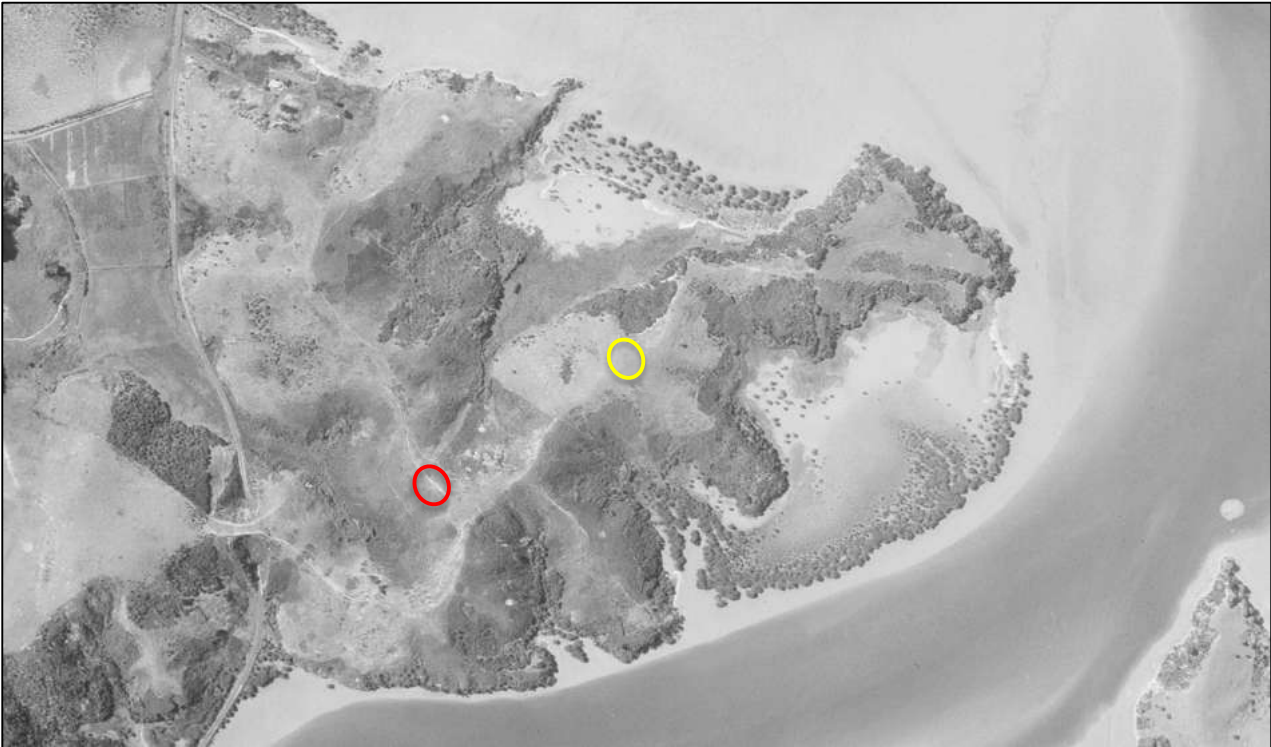
Figure 10: Screenshot aerial view of the subject site and surrounding land from GNS Science New Zealand Geology Web Map. Blue hatch represents Waipapa Group. Blue marker approximately depicts southern end of development location.

5.2 HISTORICAL AERIAL PHOTOGRAPHY REVIEW

A review of historical aerial photography, sourced from the Retrolens website, has been undertaken to evaluate any instability features or changes in landform across the property and surrounding influential land. Aerial images from 1953 have been reviewed and compared to the present-day conditions (refer Figures 11 and 12 below).

There were no visible significant geomorphological changes in the landscape, indicating a period of stable ground conditions between 1950 and May 2024.

The property has been predominantly covered in bush since at least 1953 which had further regenerated by 1981 and becoming denser as years have progressed through to the present-day.



*Figure 11: Historical aerial photograph from 1953 (sourced from Retrolens).
Red and yellow circles approximately depict the Lot 1 DBP and Lots 2 DBP, respectively.*

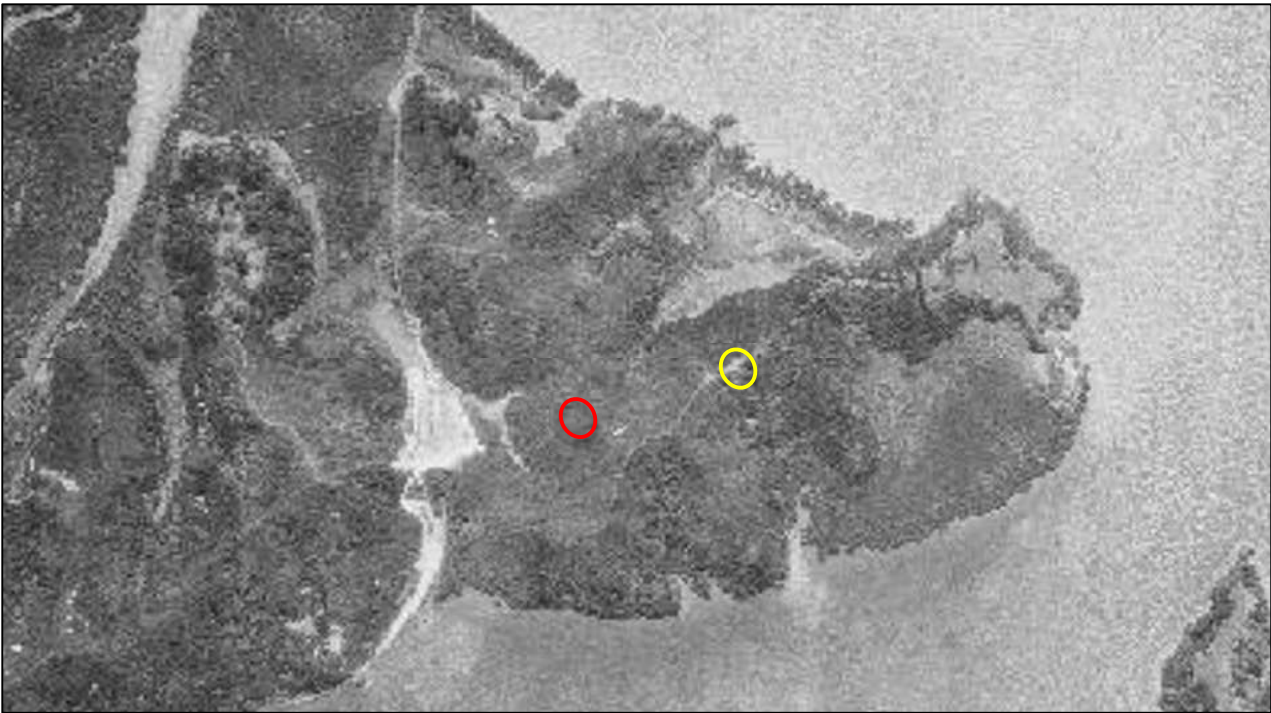


Figure 12: Historical aerial photograph from 1981 (sourced from Retrolens). Red circle approximately depicts development location.

5.3 LIQUEFACTION VULNERABILITY HAZARD ZONE

At the time of preparing this report, we note that the FNDC on-line GIS Liquefaction Vulnerability Map indicates that the property lies within an "Unlikely" zone.

Please refer to Section 8.2 below for further detailed assessment pertaining to this identified hazard zone.



Figure 13: Screenshot aerial view of the subject site from the FNDC on-line GIS Liquefaction Vulnerability Map. Black circle inside cyan square approximately depicts southern end of development location.

6 **GEOTECHNICAL INVESTIGATION**

WJL carried out a ground investigation on 23 July 2024, comprising of the following:

- Drilling eleven hand auger boreholes (HA) of 50mm diameter, to refusal depths ranging between 1.2m to 4.0m below present ground level (bpgl), and
- Dynamic cone – scala penetrometer tests were undertaken at the base of HA's 1, 3-4, 6-7, and 9-10, extending approximately 0.10m to 0.80m beneath each subject HA in determining inferred, harder weathered rock depths.

The approximate locations of the HA's are shown on our appended Site Plans (ref: 135301-G601 and 135301-G602).

The soil sample arisings from the HA's were logged in accordance with the "Field Description of Soil and Rock", NZGS, December 2005. In-situ undrained shear vane tests were measured at intervals of depth and then adjusted in accordance with the New Zealand Geotechnical Society (NZGS); Guidelines for Handheld Shear Vane Testing, August 2001, with strengths classified in accordance with the NZGS Field Classification Guidelines; Table 2.10, December 2005. The materials identified are described in detail on the appended records, together with the results of the various tests undertaken, plus the groundwater conditions as determined during time on site.

7 **GEOTECHNICAL FINDINGS**

The following is a summary of the ground conditions encountered in our investigation. Please refer to the appended logs for greater detail.

7.1 **TOPSOIL**

Aside from HA11 which was drilled at the invert of the ROW watertable drain, surficial topsoil layers of 0.10m to 0.30m thickness were overlying all HA's.

7.2 **NATURAL GROUND**

The underlying natural deposits encountered on-site were consistent with our expectations of **Waipapa Group Siltstone and Sandstone (Waipapa Terrane)** deposits, differentiated in three categories:

- Residual Soil (RS)
- Completely Weathered Rock (CW)
- Highly Weathered Rock (HW)

The site was underlain by very stiff RS deposits, comprising of **Clayey SILT** and **Slightly Clayey SILT**, generally to depths of 0.80m to 1.9m bpgl, overlying very stiff to hard **SILT** and **Gravelly SILT** deposits, assessed as CW. The RS crust was slightly thicker at our HA02 and HA10 locations, extending to respective depths of 2.7m and 2.1m bpgl, before transitioning into HW. Based on the typical Waipapa Group profile, we infer Moderately Weathered Rock is present at depth.

Measured in-situ, BS1377 adjusted peak shear strengths within the overlying RS crust ranged between 71kPa and greater than 224kPa.

Measured in-situ, BS1377 adjusted peak shear strengths within the underlying CW were all greater than 197kPa, where soil strength was excess of the shear vane capacity and/or UTP (unable to penetrate).

Aside from an isolated ratio of 6.4 at a depth of 0.40m in HA05, the ratio of peak to remoulded vane shear strength values ranged between 2.0 and 4.0, indicating 'Moderately Sensitive' subgrade.

DCP's undertaken at the base of HA's 1, 3-4, 6-7, and 9-10, encountered blow counts per 0.10m of ground penetration ranging between 10 and 20, before ultimately terminating on greater than 20 blows within 0.10m to 0.80 below the base of each tested HA.



Figure 15: Site photograph of the typical HA soil arisings.



Figure 16: Site photograph of the typical HA soil arisings.

7.3 GROUNDWATER

Groundwater was only encountered within HA06 and HA07 at depths of 0.80m and 0.90m, rising 0.30m to standing levels of 0.50m and 0.60m. The levels encountered were expected considering the test locations being at the northern toe of Lot 1 and 2, which is bound by the Kawakawa River environment.

No groundwater was encountered at elevation across the development areas. Considering the topography and underlying geological profile, it is envisaged that significantly elevated levels will likely not be present.

7.4 SUMMARY TABLE

The following table summarises our inferred stratigraphic profiling.

Table 1: Stratigraphic Summary Table

Hole ID	Termination Depth (m)	Depth to Base of Topsoil (m)	Depth to Completely Weathered Rock (m)	Minimum Peak Vane Shear Strength (kPa) within Natural ground	Maximum Peak Vane Shear Strength (kPa) within Natural ground	DCP Termination Depth Below Base of HA (m)	Standing Groundwater Level (m)
HA01	1.2	0.10	0.80	110	197+ / UTP	1.3	NE
HA02	3.2	0.10	2.7	158	197+ / UTP	NA	NE
HA03	2.1	0.20	1.4	160	224+ / UTP	2.9	NE
HA04	2.9	0.20	1.8	205	224+ / UTP	3.4	NE
HA05	3.6	0.10	1.9	127	197+ / UTP	NA	NE
HA06	1.5	0.30	1.0	71	UTP	1.7	0.50
HA07	1.3	0.15	1.3	71	UTP	1.4	0.60
HA08	2.8	0.20	1.8	170	217+ / UTP	NA	NE
HA09	4.0	0.15	1.8	197+	197+ / UTP	4.1	NE
HA010	3.1	0.20	2.1	192	224+ / UTP	3.8	NE
HA011	2.0	NE	1.3	202	217+ / UTP	NA	NE

Note: NE=Not Encountered, UTP=Unable to Penetrate, NA= Not Applicable

8 GEOTECHNICAL ASSESSMENT

8.1 QUALITATIVE STABILITY ASSESSMENT– OVERALL

The Waipapa Group Terrane (greywacke) rocks comprise shattered Triassic to Jurassic age (140M to 200M years old) interbedded indurated siltstones, sandstones and argillite that were subjected to complex tectonic movement and deformation. The unweathered rock is typically strong to very strong, has extremely closely to closely spaced joints (<20mm to 200mm) and often irregularly spaced fault/shear zones may be present. Despite the high degree of fracturing, shattered and sheared zones, the high unweathered rock strength results in an overall high rock mass shear strength.

Geomorphology of slopes underlain by Waipapa Group greywacke is characterized by dendritic drainage patterns with steep-sided incised gullies descending from elevated, intact ridges. The ridge side flanks are generally inclined at moderate to steep inclinations (15° to 30°) and even steeper in places where a dense vegetation cover has continuously existed. Moderately to Highly Weathered Waipapa rocks exposed in road cuttings throughout Northland are often stable at angles of 70°, with only minor frittering observed. Groundwater is usually deeper than 5m to 10m below the slope surface and is influenced by the elevated (raised) topography, steep side flanks and high permeability of the fractured rock mass.

Near the surface, the Waipapa group rock strength decreases due to the effects of weathering, which can often be 10m to 20m deep. The product of in-situ weathering of the greywacke rock are near-surface deposits of Residual Soil (RS) and Completely Weathered (CW) Rock (CW) that overlie Highly Weathered Rock (HW) and Moderately Weathered Rock (MW). RS deposits typically comprise stiff to very stiff clayey silts and silty clays containing predominantly non-swelling kaolinitic clays that do not exhibit extreme shrink/swell behaviour. The CW deposits are characterized by very stiff to hard dark brown/orangey brown gravelly and clayey silts.

Mainly due to the presence of fractures and joints in the HW and MW rock, these deposits do not experience a rapid increase in pore pressure during rainfall events, as the rock fractures act as conduits for water flow. However, the upper RS and completely weathered regolith experiences a transient short-term increase in pore pressure during rainfall events. On forestry blocks and areas of cleared vegetation, the decaying root system additionally acts as a direct conduit for surface water to rapidly saturate the regolith layer (RS and CW). The most frequently observed mode of failure on Waipa Group slopes is shallow translational movement of the upper residual and completely weathered soils along the weathering soil-HW interface, during or immediately after peak rainstorms.

To model these unique hydraulic characteristics of the Waipapa Group soils and rocks, our qualitative stability analysis uses the following approach for calculation of pre water pressures:

Table 1: Method of Pore Water Pressure Calculation

Soil Layer	Method of pore water pressure calculation in Slide 2
Residual Soil	Water Surface
Completely Weathered Rock	Water Surface
Highly Weathered Rock and Moderately Weathered Rock (where applicable)	Pore Pressure Factor R_u ranging from 0.1 to 0.3

8.2 PROPOSED LOT 1 SITE STABILITY

8.2.1 QUALITATIVE SLOPE STABILITY

The DBP is positioned towards the south-eastern end of the prominent northwest facing spur crest that trends through the central area of the proposed Lot. The DBP crest is gently sloping in nature across some 30m, before transitioning into moderate to steep side flanks that fall approximately 40m in elevation down to a gentle gully to the southwest and basin area to the northeast (ref: appended cross-section A-A').

Our assessments also considered the following:

- Very stiff to hard subsoils encountered during our investigation and presence of completely weathered rock generally from depths of 0.80m to 2.7m bpgl,
- Lack of groundwater evidence at elevation,
- The development area is situated on elevated terrain with good water-shedding characteristics,
- There are no known active faults traversing through or close to the site, and
- No visual signs of natural ground instability were observed at the time of our investigation.

8.2.2 QUANTITATIVE SLOPE STABILITY

Slope stability analyses were undertaken using computer program Slide 2 by Rocscience Limited. Theoretical non-circular (composite) surfaces were assessed using the Spencer method.

An assumed Uniformly Distributed Load (UDL) of 10kPa was applied to represent the surcharge load of a future dwelling

The stability analyses have been undertaken for existing conditions (moderate groundwater), worst-case ground conditions (elevated groundwater), and extreme scenarios (seismic loading).

A Peak Ground Acceleration (PGA) value of 0.19g (ULS) was used for the 500-year seismic event with an effective earthquake magnitude of 6.5 as recommended by the New Zealand Geotechnical Society (Earthquake Geotechnical Engineering Practice Module 1, Dated: November 2021).

Effective shear stress (shear strength) parameters were used for our assessment, based on experience of the geology and back analysis of an assumed failure under normal and extreme groundwater conditions. Undrained soil strength parameters (no friction angle) were used to model the extreme conditions of a seismic event.

Back Analysis:

We have carried out a 'back analyses' to establish effective shear stress parameters for the stability assessment. An existing ground profile was modelled with fully saturated ground conditions to achieve a Factor of Safety (FoS) ≈ 1.0 to demonstrate a possible scenario when ground movement could occur based on land topography prior to recent land modifications. The soil strength parameters used for the back analyses were then applied for the moderate and elevated scenarios of our slope stability assessment. Undrained soil strength parameters (no friction angle) were used to model the extreme conditions of a seismic event.

The soil strength parameters used in the stability assessment are shown in the following tables:

Table 2: Effective Shear Stress (Shear Strength) Parameters for South-western & North-eastern Slopes

Soil Parameters	Residual Waipapa Group Soils	Completely Weathered Waipapa Group Soils	Highly Weathered Waipapa Group Rock
Unit Weight, γ (kN/m ³)	18	18	20
Effective Cohesion c' (kPa)	8	10	15
Friction Angle, ϕ' (°)	30	32	40
Undrained (no ϕ') S_u	60	80	300

We commenced our assessment with a number of sensitivity analyses (not presented here), using more conservative parameters for the soil stratum, and groundwater day-lighting positions which confirmed that the slope is slightly sensitive to fluctuations in groundwater level near the surficial soil layers, and furthermore, that elevated groundwater (if present) would be the result of rapid infiltration of rainfall (wetting occurs from top down) rather than gradual rise in groundwater levels from depth. Based on the above, we have assumed the following groundwater scenarios:

1. **Moderate Groundwater Level** - Long-term stability when modelling the existing ground conditions and assumed a groundwater level at a depth of approximately 2.5m to 3.5m below the DBP.

FoS required >1.5.

2. **Elevated Groundwater Level** - Transient (medium-term) stability when modelling the worst-case scenario and assumed a raised groundwater level at a depth of approximately 1.2m to 2.2m below the DBP.

FoS required >1.3.

3. **Seismic Loading. Short-term Stability** - When modelling extreme ground conditions under a 500-year seismic event and assumed an elevated groundwater level at a depth of approximately 2.5m to 3.5m below the DBP.

FoS required >1.1.

A summary of the calculated minimum FoS using the Spencer and GLE/Morgenstern-Price Methods against failure across the DBP for each of the above scenarios is shown in the following table:

Table 3: Stability Analysis Results

Section	Design Conditions	Factor of Safety (FoS) within the Proposed Building Platform		Pass / Fail
		Required	Calculated	
A-A'	Moderate Groundwater	≥1.5	>1.5	Pass
	Elevated Groundwater	≥1.3	>1.3	Pass
	Elevated Groundwater, plus Seismic Load	≥1.1	>1.1	Pass

8.3 PROPOSED LOT 2 SITE STABILITY

8.3.1 QUALITATIVE SLOPE STABILITY

The DBP is positioned across the former access track that straddles the ridgeline crest and is upslope of the existing ROW formation. Much like Lot 1, the DBP crest is generally gently sloping in nature across some 30m. The DBP is bound to the northwest by a moderate to steep side flank that falls some 40m in elevation down to a basin area. The south-eastern flank that falls from the DBP is more moderate in nature across a further distance and is dissected by the ROW formation downslope (ref: appended cross-section B-B').

Our assessments also considered the following:

- Very stiff to hard subsoils encountered during our investigation and presence of completely weathered rock generally from depths of 1.3m to 2.1m bpgl,
- Lack of groundwater evidence at elevation,
- The development area is situated on elevated terrain with good water-shedding characteristics,
- There are no known active faults traversing through or close to the site, and
- No visual signs of natural ground instability were observed at the time of our investigation.

8.3.2 QUANTITATIVE SLOPE STABILITY

Slope stability analyses for proposed Lot 2 have been undertaken in accordance with the abovementioned parameters provided in Section 8.1.2.

The soil strength parameters used in the stability assessment are shown in the following tables:

Table 4: Effective Shear Stress (Shear Strength) Parameters for North-western Slope.

Soil Parameters	Residual Waipapa Group Soils	Completely Weathered Waipapa Group rock	Highly Weathered Waipapa Group Rock
Unit Weight, γ (kN/m ³)	18	18	20
Effective Cohesion c' (kPa)	8	10	15
Friction Angle, ϕ' (°)	30	32	40
Undrained (no ϕ') S_u	60	80	300

We have assumed the following groundwater scenarios:

1. **Moderate Groundwater Level** - Long-term stability when modelling the existing ground conditions and assumed a groundwater level at a depth of approximately 2.8m to 3.9m below the DBP.
FoS required >1.5.
2. **Elevated Groundwater Level** - Transient (medium-term) stability when modelling the worst-case scenario and assumed a raised groundwater level at a depth of approximately 2.0 to 3.3m below the DBP.
FoS required >1.3.
3. **Seismic Loading, Short-term Stability** - When modelling extreme ground conditions under a 500-year seismic event and assumed an elevated groundwater level at a depth of approximately 2.8m to 3.9m below the DBP.
FoS required >1.1.

A summary of the calculated minimum FoS using the Spencer and GLE/Morgenstern-Price Methods against failure across the DBP for each of the above scenarios is shown in the following table:

Table 5: Stability Analysis Results

Section	Design Conditions	Factor of Safety (FoS) within the Proposed Building Platform		Pass / Fail
		Required	Calculated	
A-A'	Moderate Groundwater	≥1.5	>1.5	Pass
	Elevated Groundwater	≥1.3	>1.3	Pass
	Elevated Groundwater, plus Seismic Load	≥1.1	>1.1	Pass

8.4 SLOPE STABILITY CONCLUSIONS

The analyses indicate that a satisfactory FoS is available for both DBP's under all conditions (see Table 4 and 6). The outputs from the analyses are appended to our report.

However, our analyses indicate that unsatisfactory FoS are apparent across:

- The south-western flank below the DBP at proposed Lot 1, and
- The north-western flank below the DBP at proposed Lot 2.

The analyses indicate that the mechanism of failure generally comprises a series of shallow (progressively getting deeper) slippage that starts at the toe of the flanks and retrogressively encroaches upslope, especially near the leading-edge of the proposed Lot 2 DBP. The risk of shallow translational ground movement is expected to increase during times of extreme rainfall and following periods of intense rainfall that results in saturation of the weathered soil overburden and slippage along the contact with the underlying weathered rock.

In mitigating the risk of shallow soil creep and/or movement, at minimum, we recommend soil creep piles are installed beneath the:

- South-western and north-eastern leading-edges of any future dwelling within the DBP at proposed Lot 1, and
- North-western and south-eastern leading-edges of any future dwelling within the DBP at proposed Lot 2 (see Section 9).

Additionally, it is also recommended that:

- No fill is placed on slopes below the DBP's without re-evaluating the slope stability analysis model. Landscape-type filling is also discouraged without review,
- Clearing of vegetation downslope of the DBP's is discouraged and continued planting of vegetation is encouraged to aid in local slope stability,
- All stormwater run-off and discharge from the new development areas must be appropriately managed and controlled on-site, which will further aid in stabilisation of the DBP's and land downslope. It is imperative that stormwater is not discharged to directly to slopes below the DBP's.

8.5 LIQUEFACTION ASSESSMENT

At the time of preparing this report, we note that the FNDC on-line GIS Liquefaction Vulnerability Map indicates that the designated building site is within an 'Undetermined' zone.

Liquefaction is a natural phenomenon where a loss of strength of sand-like soils is experienced following cyclic induced stress, which is typically a result of prolonged seismic shaking and the resultant increase in pore water pressure of saturated soils. Recent examples of this were experienced in Christchurch and the greater Canterbury Region during the Canterbury Earthquake Sequence between 2010-2011.

Cyclic loading during prolonged seismic shaking induces an increase in pore water pressure, which in turn decreases the effective stress of a sand-like deposit of soil. Excess pore water pressure (EPWP) can build to such an extent that the effective stress of the underlying soils is reduced to near zero, whereby the soils no longer carry shear strength and behave as a semi solid/fluid. In such a scenario, excess pore water pressures will follow the path of least resistance to eventual dissipation, which can lead to the migration of liquefied soils towards the surface, or laterally towards a free-face (edge of slope, riverbank, etc.) or layers that have not yet undergone liquefaction.

A screening procedure based on geological criteria was adopted to examine whether the proposed development might be susceptible to liquefaction, with observations as follows:

- There are no known active faults traversing through the DPB's or immediate surrounding land,
- There is no historical evidence of liquefaction at proposed Lot 1 and 2,
- Both sites are situated on an elevated locations with good water-shedding characteristics,
- Very high in-situ measured Vane Shear Strength readings recorded during our investigation,
- Lack of groundwater evidence at elevation,
- The underlying natural soil deposits comprise of very stiff to hard, cohesive soils that are not generally considered susceptible to liquefaction, and
- The subsoils of the site are underlain by Waipapa Group deposits that are approximately 154 to 270 million years in age, allowing for adequate consolidation in comparison to Holocene age material (10,000 years).

Based on the above, we conclude that the subsoils across the designated building site have a negligible risk of liquefaction susceptibility and liquefaction damage is therefore considered to be unlikely.

9 CONCLUSIONS AND RECOMMENDATIONS

Based on our fieldwork investigation, subsoil testing results, walkover inspection and stability commentary as described above, we consider on reasonable grounds that this report can be submitted to the Territorial Authority in support of a Resource Consent application for subdividing the subject site, substantiating that in terms of section 106 of the Resource Management Act and its current amendments, either

- a) No land in respect of which the consent is sought, nor any structure on that land, is, nor is likely to be subject to material damage by erosion, falling debris, subsidence, or slippage from any source, or
- b) No subsequent use that is likely to be made of the land is likely to accelerate, worsen, or result in material damage to that land, other land, or structure, by erosion, falling debris, subsidence, or slippage from any source,

unless the Territorial Authority is satisfied that sufficient provision has been made or will be made in accordance with section 106(2).

Under section 106(2), the Territorial Authority may grant a subdivision consent if it is satisfied that the effects described above will be avoided, remedied, or mitigated by one or more of the following:

- (a) Rules in the district plan:
- (b) Conditions of a resource consent, either generally or pursuant to section 220(1)(d):
- (c) Other matters, including works.

And we are therefore satisfied that the DBP's identified at proposed Lot 1 and 2 should be generally suitable for building development in terms of NZS3604:2011, subject to specific engineering design (SED), **provided that site-specific Geotechnical assessments be undertaken to support a future BC application at both proposed Lots**, once final land modification proposals have been devised, adhering to the following recommendations of this report, unless over-ridden by said site-specific Geotechnical assessment.

9.1 FOUNDATIONS

9.1.1 FOUNDATION TYPES

New residential dwellings at **proposed Lot 1 and 2** would be better suited for timber subfloor construction, suspended on bored, concrete-encased, tanalised timber piles. Dwellings should generally be designed to traverse the assessed crest areas in allowing further stability margins.

Proposed concrete slab construction is feasible, but depending on the proposed earthwork magnitudes, may result in a separate in-ground soldier pile type wall(s) as opposed to leading soil creep piles, as well as significant retaining structures.

9.1.2 LEADING-EDGE SOIL CREEP PILES

At this preliminary stage and **at minimum**, all leading-edge soil creep piles should be designed to resist a loss of lateral soil support to a minimum depth of 2.0m bpgl and be embedded a minimum of 4.0m bpgl. Design must commence following site-specific Geotechnical assessments in supporting future BC applications.

As noted in Section 9.1.1, a separate in-ground soldier pile type wall(s) may need to be considered for any proposed concrete slab construction, as opposed to leading-edge soil creep piles.

9.1.3 SHALLOW FOUNDATION BEARING CAPACITY

The following bearing capacity values are considered to be appropriate for the design of all other shallow foundations, subject to founding directly within competent natural ground and/or engineered fill, for which careful Geo-Professional inspections of the subgrade should be undertaken to check that underlying ground conditions are in keeping with our expectations:

Table 6: Bearing Capacity Values

Geotechnical Ultimate Bearing Capacity	300 kPa
ULS Dependable Bearing Capacity ($\Phi=0.5$)	150 kPa

9.1.4 EXPANSIVE SOILS

In this instance, without any laboratory testing, we recommend a primary classification of Class H (Highly) expansive soils as defined in clause 7.5.13.1.2, as introduced to NZS3604 by Amendment 19 of NZBC Structure B1/AS1.

- **NZBC B1 Expansive Soil Class H**
- **Upper Limit of Characteristic surface movement (γ_s) 78mm**

At this preliminary stage, a minimum footing embedment of 0.90m below finished ground level and 0.30m into competent natural ground, whichever is deeper, is recommended.

9.1.5 NZS1170.5:2004 SITE SUBSOIL CLASSIFICATION

We consider the DBP's to be underlain with a Class C – Shallow Soil Site.

9.2 EARTHWORKS

It is recommended no earthworks are undertaken across the proposed Lot 1 and 2 DBP's until development proposals have been formulated and assessed by a suitably qualified Geo-Professional during the BC phase.

All future earthworks should be undertaken in accordance with the following standards:

- NZS4431:2022 “Code of Practice for Earth Fill Residential Development”,
- Section 2 “Earthworks & Geotechnical Requirements” of NZS4404:2010 “Land Development and Subdivision Infrastructure”, and
- Chapter 2 “Site Development Suitability (Geotechnical and Natural Hazards” of the Far North District Council Engineering Standards, (Version 0.6 issued May 2023).

9.3 STORMWATER & SURFACE WATER CONTROL

It is imperative that stormwater is not discharged to directly to slopes below the DBP's.

Uncontrolled concentrated stormwater flows must not be allowed to run onto or over site slopes, or to saturate the ground particularly near the northern slope, so as to adversely affect slope stability or foundation conditions.

Overland flows and similar runoff such as from any higher ground should be intercepted by means of shallow surface drains and/or small bunds and be directed away from building footprints to protect platforms from both saturation and erosion, as well as any localised slope instability. Water collected in interceptor drains should be diverted away from building sites to stable disposal points. Likewise, all stormwater runoff from roofs and paved areas, should also be collected in sealed pipes and be discharged in accordance with the above.

Under no circumstances should concentrated overflows from any source discharge into or onto the ground in an uncontrolled fashion.

10 UNDERGROUND SERVICES

Although Far North District Council (FNDC) GIS Maps do not indicate any public underground services to be present across the existing site, other underground services, public or private, mapped, or unmapped, of any type could be present. It is recommended to stay on the side of caution during the commencement of any future works within proposed development areas.

11 LIMITATIONS

We anticipate that this report is to be submitted to Council in support of a Resource Consent application.

This report has been commissioned solely for the benefit of our client, the **Terroir Ltd**, in relation to the project as described herein, and to the limits of our engagement, with the exception that the local Territorial Authority may rely on it to the extent of its appropriateness, conditions, and limitations, when issuing the subject consent.

Any variations from the development proposals as described herein as forming the basis of our appraisal should be referred back to us for further evaluation. Copyright of Intellectual Property remains with WJL, and this report may NOT be used by any other entity, or for any other proposals, without our written consent. Therefore, no liability is accepted by this firm or any of its directors, servants, or agents, in respect of any other geotechnical aspects of this site, nor for its use by any other person or entity, and any other person or entity who relies upon any information contained herein does so entirely at their own risk. Where other parties may wish to rely on it, whether for the same or different proposals, this permission may be extended, subject to our satisfactory review of their interpretation of the report.

Although this report may be submitted to a local authority in connection with an application for a consent, permission, approval, or pursuant to any other requirement of law, this disclaimer shall still apply and require all other parties to use due diligence where necessary and does not remove the necessity for the normal inspection of site conditions and the design of foundations as would be made under all normal circumstances.

Thank you for the opportunity to provide our service on this project, and if we can be of further assistance, please do not hesitate to contact us.

Yours faithfully,

WILTON JOUBERT LIMITED

Enclosures:

- Subdivision Scheme Plan (1 sheet)
- WJL Site Plans (2 sheet)
- Cross-section A-A' & B-B' (2 sheets)
- Hand Auger Borehole Records (11 sheets)
- Slope Stability Assessment Outputs (9 sheets)



EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY	(A) (B)	LOT 3 HEREON	E.I. 12055652.3
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(C)	LOT 2 HEREON	RC2240273 (LOT 2 DP 62916)
RIGHT OF WAY	(D)	LOT 5 HEREON	RC2240273 (LOT 2 LT 604018)

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS & ELECTRICITY	(A) (B)	LOT 3 HEREON	LOTS 1 & 2 HEREON

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TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council

Comprised in: TITLE REF AWAITING COMPLETION OF RC 2240273

Total Area: 21.2147Ha

This plan and accompanying report(s) have been prepared for the purpose of obtaining a Resource Consent only and for no other purpose. Use of this plan and/or information on it for any other purpose is at the user's risk.



Bar Scale 1:3000 @ A3

THOMSON SURVEY LIMITED
 315 Kerikeri Rd
 P.O. Box 372 Kerikeri
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 Ph: (09) 4077360
 www.tsurvey.co.nz

Registered Land Surveyors, Planners & Land Development Consultants

**PROPOSED SUBDIVISION OF ALLOTMENT 271
 PSH OF KAWAKAWA & LOT 1 LT 604018 (RC 2240273)
 154 TE RAUPO ROAD, OPUA**

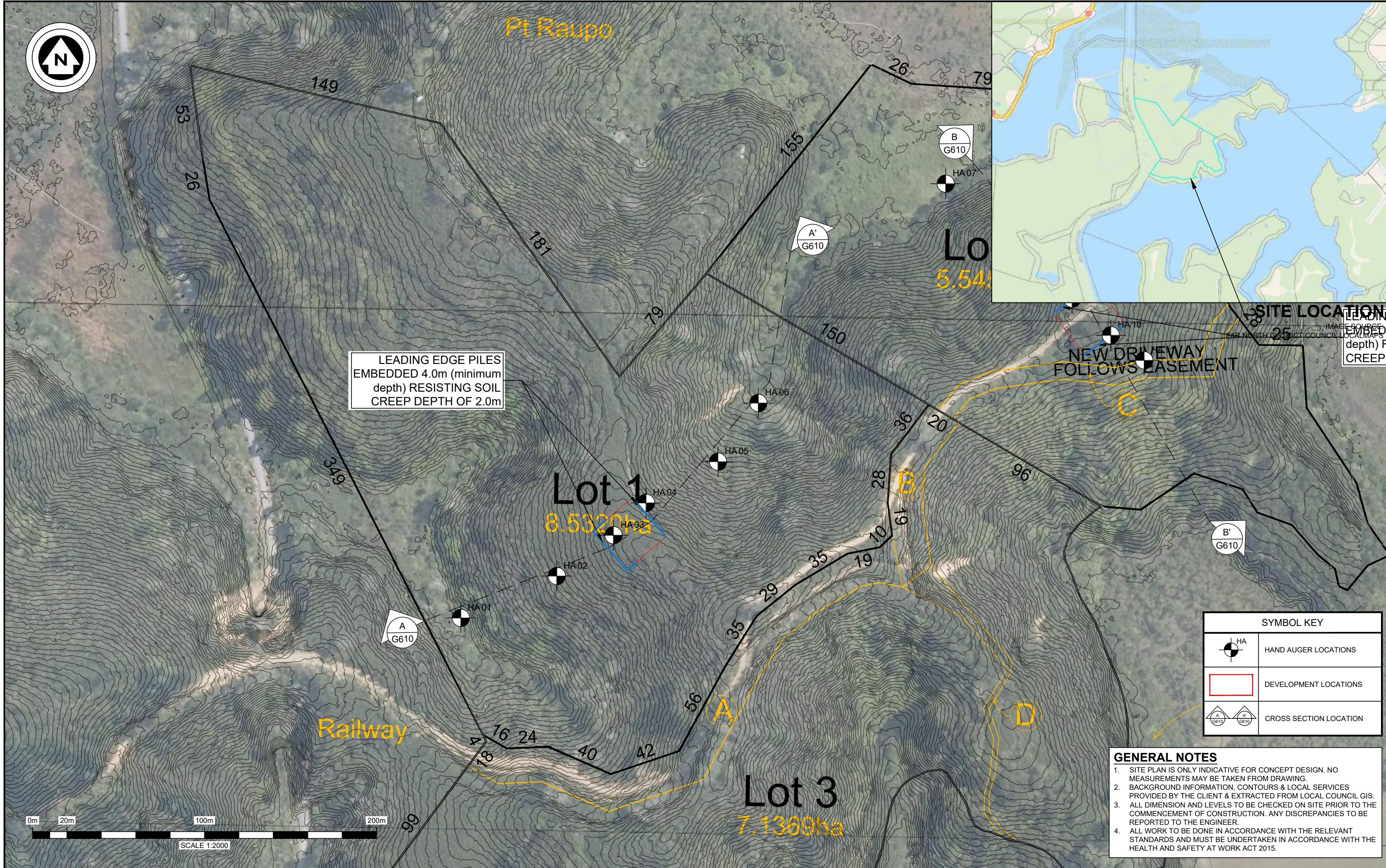
PREPARED FOR: S. MASON

Name	Date	ORIGINAL SCALE	SHEET SIZE
Survey		1:3000	A3
Design			
Drawn	KY 11.07.24		
Approved			
Rev			
9112 Scheme 20240711			

Surveyors Ref. No:

9112

Sheet 1 of 1



SITE LOCATION

IMAGE SOURCE: EMBEDDED (depth) R
 CREEP I

LEADING EDGE PILES
 EMBEDDED 4.0m (minimum
 depth) RESISTING SOIL
 CREEP DEPTH OF 2.0m

NEW DRIVEWAY
 FOLLOWS EASEMENT

SYMBOL KEY	
	HAND AUGER LOCATIONS
	DEVELOPMENT LOCATIONS
	CROSS SECTION LOCATION

- GENERAL NOTES**
1. SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
 2. BACKGROUND INFORMATION, CONTOURS & LOCAL SERVICES PROVIDED BY THE CLIENT & EXTRACTED FROM LOCAL COUNCIL GIS.
 3. ALL DIMENSION AND LEVELS TO BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
 4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE RELEVANT STANDARDS AND MUST BE UNDERTAKEN IN ACCORDANCE WITH THE HEALTH AND SAFETY AT WORK ACT 2015.

WILTON JOUBERT
 Consulting Engineers

Northland: 09 945 4188 Auckland: 09 527 0196
 Christchurch: 021 824 063 Wanaka: 03 443 6209
 www.wiltonjoubert.co.nz

ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
A	JULY 2024	NPN	ISSUED WITH GEOTECHNICAL REPORT

DESIGNED BY:
 DRAWN BY:
 NPN
 CHECKED BY:
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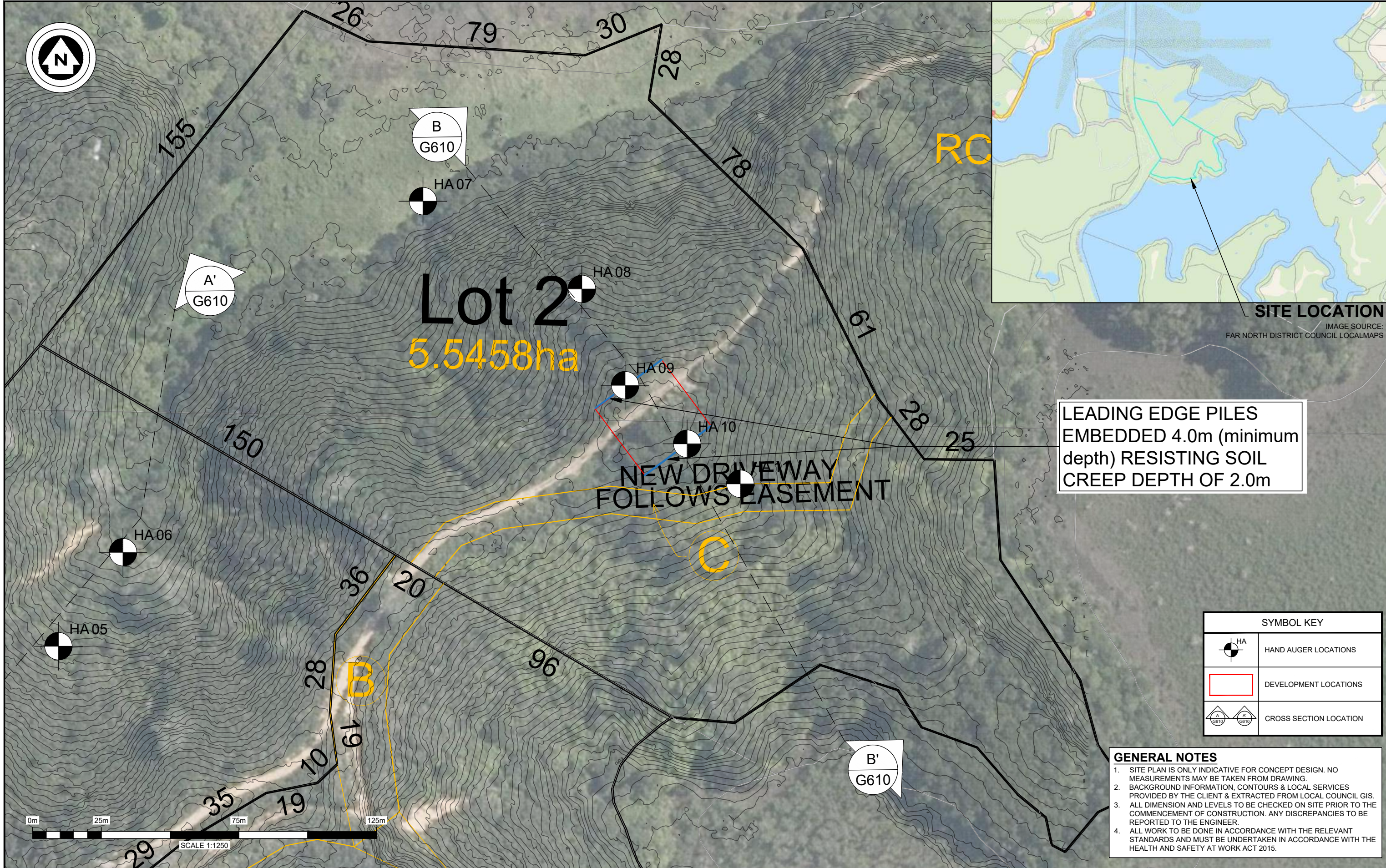
RESOURCE CONSENT
 DESIGN / DRAWING SUBJECT TO ENGINEERS APPROVAL

DRAWING TITLE:
SITE PLAN - PROPOSED LOT 1

PROJECT DESCRIPTION:
PROPOSED 3-LOT SUBDIVISION

PROJECT TITLE:
**ALLOTMENT 271 PSH OF
 KAWAKAWA & LOT 1 LT
 604018 (RC 2240273)
 154 TE RAUPO ROAD
 OPUA
 NORTHLAND**

ORIGINAL DRAWING SIZE: A3	OFFICE: KERIKERI
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**LEADING EDGE PILES
EMBEDDED 4.0m (minimum
depth) RESISTING SOIL
CREEP DEPTH OF 2.0m**

SYMBOL KEY	
	HA HAND AUGER LOCATIONS
	DEVELOPMENT LOCATIONS
	CROSS SECTION LOCATION

- GENERAL NOTES**
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RESOURCE CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEERS APPROVAL

DRAWING TITLE:
SITE PLAN - PROPOSED LOT 2

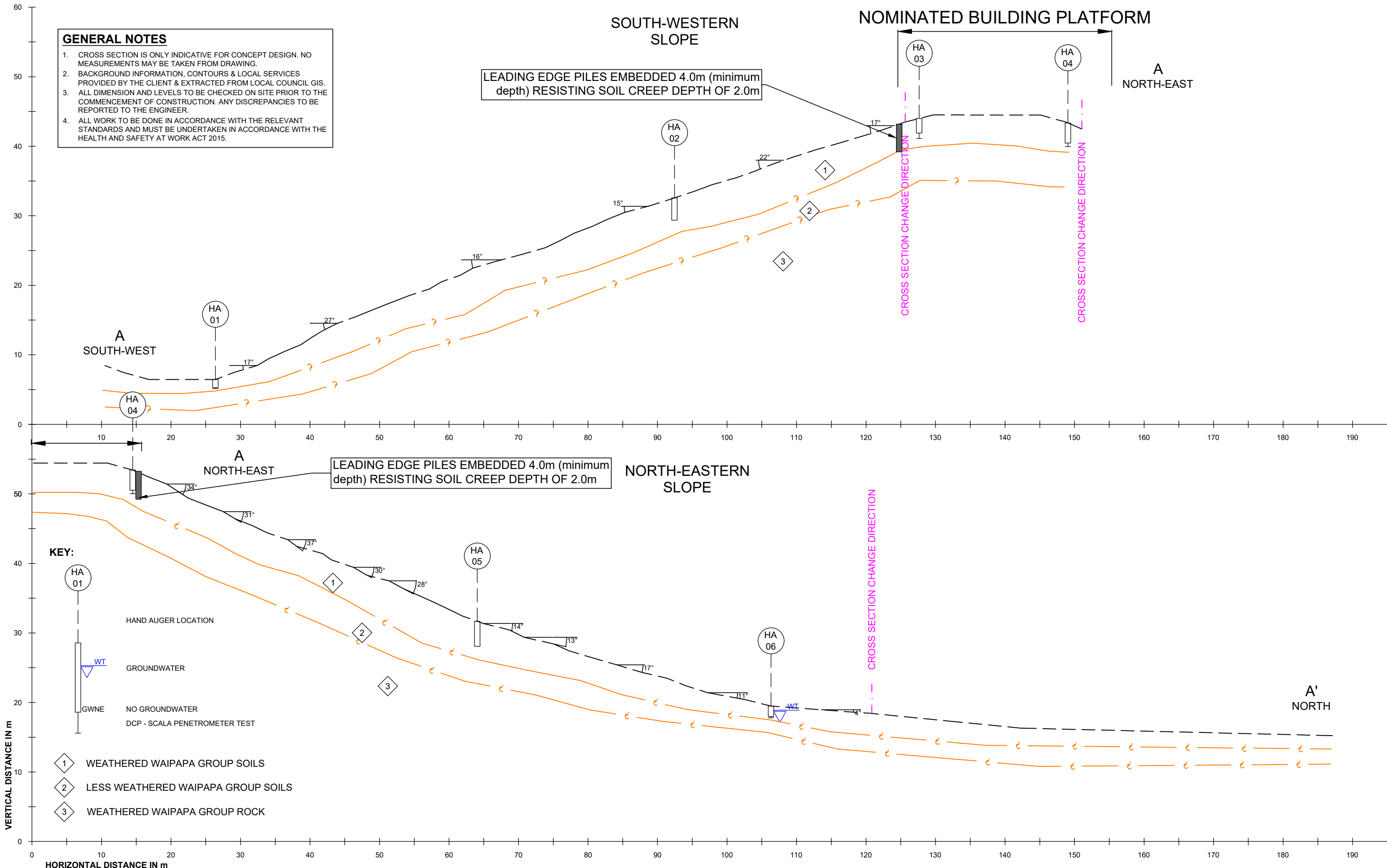
PROJECT DESCRIPTION:
PROPOSED 3-LOT SUBDIVISION

PROJECT TITLE:
**ALLOTMENT 271 PSH OF
KAWAKAWA & LOT 1 LT
604018 (RC 2240273)
154 TE RAUPO ROAD
OPUA
NORTHLAND**

ORIGINAL DRAWING SIZE: A3	OFFICE: KERIKERI
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- ALL WORK TO BE DONE IN ACCORDANCE WITH THE RELEVANT STANDARDS AND MUST BE UNDERTAKEN IN ACCORDANCE WITH THE HEALTH AND SAFETY AT WORK ACT 2015.



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DRAWING TITLE:
LOT 1 - CROSS SECTION A-A'

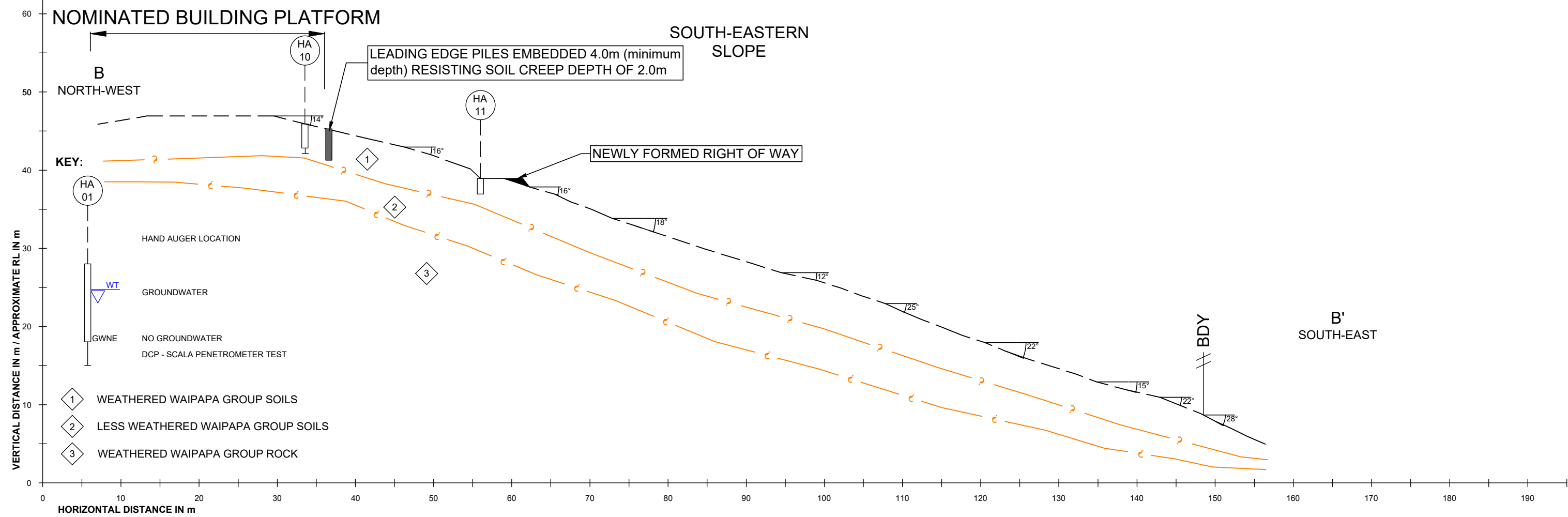
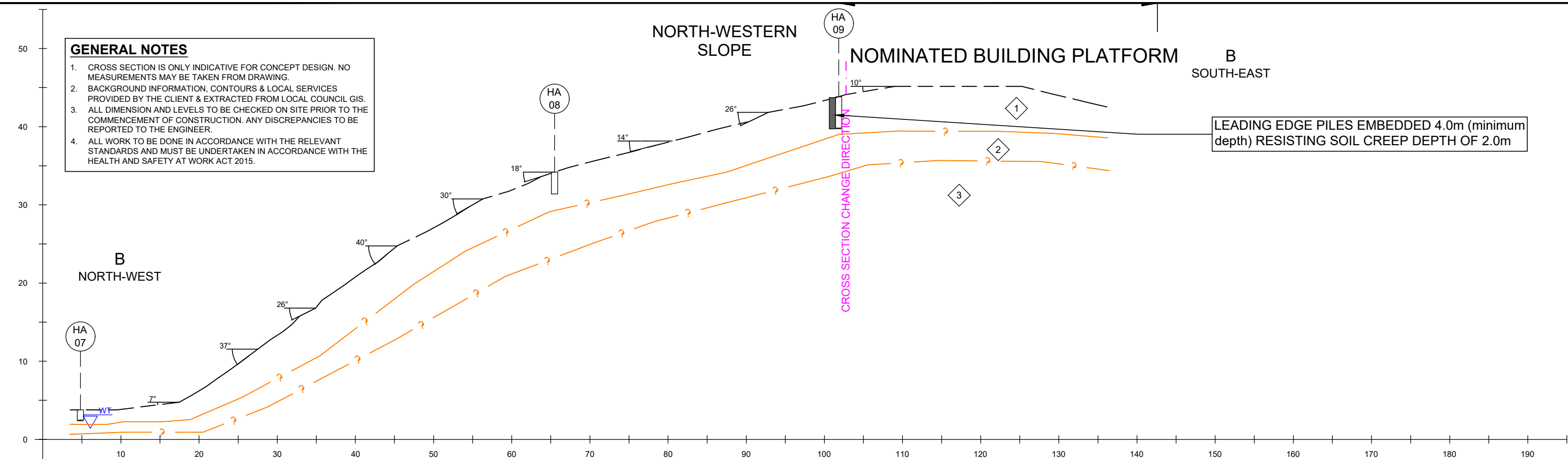
PROJECT DESCRIPTION:
PROPOSED 3-LOT SUBDIVISION

PROJECT TITLE:
ALLOTMENT 271 PSH OF KAWAKAWA & LOT 1 LT 604018 (RC 2240273) 154 TE RAUPO ROAD OPUA NORTHLAND

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- ALL WORK TO BE DONE IN ACCORDANCE WITH THE RELEVANT STANDARDS AND MUST BE UNDERTAKEN IN ACCORDANCE WITH THE HEALTH AND SAFETY AT WORK ACT 2015.



- KEY:**
- HA: HAND AUGER LOCATION
 - WT: GROUNDWATER
 - GWNE: NO GROUNDWATER
 - DCP: DCP - SCALA PENETROMETER TEST
 - 1: WEATHERED WAIPAPA GROUP SOILS
 - 2: LESS WEATHERED WAIPAPA GROUP SOILS
 - 3: WEATHERED WAIPAPA GROUP ROCK

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RESOURCE CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEERS APPROVAL

DRAWING TITLE:
LOT 2 - CROSS SECTION B-B'

PROJECT DESCRIPTION:
PROPOSED 3-LOT SUBDIVISION

PROJECT TITLE:
ALLOTMENT 271 PSH OF KAWAKAWA & LOT 1 LT 604018 (RC 2240273) 154 TE RAUPO ROAD OPUA NORTHLAND

ORIGINAL DRAWING SIZE: A3	OFFICE: KERIKERI
DRAWING SCALE: 1:500	CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: 135301-G6112	ISSUE: A
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HAND AUGER : HA01

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: 1994

ELEVATION: Ground

FACTOR: 1.41

DATUM:

CLIENT: Terroir Ltd
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	
Top soil	TOPSOIL								
Waipapa Group	NATURAL: Slightly Clayey SILT, orangey brown mottled yellowish white, very stiff, moist, low plasticity		0.2	Groundwater Not Encountered					
			0.4		110	28	3.9		
		0.6							
		0.8							
	Gravelly SILT (COMPLETELY WEATHERED ROCK), yellowish brown mottled white, very stiff to hard, moist, no plasticity, friable, frequent manganese staining		1.0		197+	-	-		
			1.2		UTP	-	-	20+	
			1.4						
			1.6						
			1.8						
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						
			3.6						
			3.8						
			4.0						
			4.2						
			4.4						

REMARKS

End of borehole @ 1.20m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM

▼ Standing groundwater level

CHECKED BY: DXS

▽ GW while drilling



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Email: jobs@wjw.co.nz
Website: www.wiltonjoubert.co.nz

HAND AUGER : HA03

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: 772

ELEVATION: Ground

FACTOR: 1.6

DATUM:

CLIENT: Terroir Ltd
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	
Topsol	TOPSOIL, dark brown, moist		0.2	Groundwater Not Encountered					
Waipapa Group	NATURAL: Clayey SILT, yellowish brown, very stiff, moist, moderate plasticity, occasional greyish light brown streaks		0.4		160	80	2.0		
	0.6m: Occasional light orange streaks		0.6						
	1.0m: Becoming yellowish brown with grey streaks, low to moderate plasticity		1.0		224+	-	-		
	Slightly Clayey SILT, yellowish brown with grey mottles, very stiff, moist, low plasticity		1.4		224+	-	-		
	SILT with minor clay (COMPLETELY WEATHERED ROCK), yellowish brown with grey mottles, very stiff, moist, no to low plasticity, slightly friable		1.6		224+	-	-		
1.6m: 100mm lens of Clayey SILT, yellowish brown with light orange streaks		1.6							
SILT with trace clay (COMPLETELY WEATHERED ROCK), yellowish brown, very stiff to hard, dry to moist, no plasticity, friable		1.8							
1.9m: Becoming mottled grey		2.0							
EOH: 2.10m - Too Hard To Auger		2.2			UTP	-	-	17	
		2.4					11		
		2.6					12		
		2.8					12		
		3.0					13		
		3.2					17		
		3.4					20		
		3.6					20+		
		3.8							
		4.0							
		4.2							
		4.4							

REMARKS
End of borehole @ 2.10m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: SJP ▼ Standing groundwater level
CHECKED BY: DXS ▽ GW while drilling



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HAND AUGER : HA04

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: 772

ELEVATION: Ground

FACTOR: 1.6

DATUM:

CLIENT: Terroir Ltd
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS	
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)		
Topsol	TOPSOIL, dark brown, moist		0.0 - 0.2	Groundwater Not Encountered						
Waipapa Group	NATURAL: Clayey SILT, yellowish brown, very stiff, moist, moderate plasticity		0.2 - 0.4		205	74	2.8			
			0.4 - 0.6							
			0.6 - 0.8							
		0.9m: Occasional light orange streaks			0.8 - 1.0	224+	-	-		
					1.0 - 1.2					
		1.4m: Becoming orangey brown & yellowish brown			1.2 - 1.4	224+	-	-		
					1.4 - 1.6					
					1.6 - 1.8	224+	-	-		
		SILT with trace clay (COMPLETELY WEATHERED ROCK), yellowish grey & dark orangey brown, very stiff to hard, moist, no to plasticity, friable			1.8 - 2.0	224+	-	-		
			2.0 - 2.2							
			2.2 - 2.4	UTP	-	-				
			2.4 - 2.6							
			2.6 - 2.8	UTP	-	-				
			2.8 - 3.0	UTP	-	-	13			
	EOH: 2.90m - Too Hard To Auger		3.0 - 3.2				11			
			3.2 - 3.4				12			
			3.4 - 3.6				18			
			3.6 - 3.8				20+			
			3.8 - 4.0							
			4.0 - 4.2							
			4.2 - 4.4							

REMARKS	
End of borehole @ 2.90m (Target Depth: 5.00m)	
WILTON JOUBERT Consulting Engineers 185 Waipapa Road, Kerikeri 0295 Phone: 09-945 4188 Email: jobs@wj.co.nz Website: www.wiltonjoubert.co.nz	
NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense LOGGED BY: SJP CHECKED BY: DXS	▼ Standing groundwater level ▽ GW while drilling

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HAND AUGER : HA05

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: 1994

ELEVATION: Ground

FACTOR: 1.41

DATUM:

CLIENT: Terroir Ltd
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / mm)	
Top soil	TOPSOIL, dark brown, moist								
Waipapa Group	NATURAL: Clayey SILT, yellow, very stiff, moist, low to moderate plasticity		0.2	Groundwater Not Encountered					
			0.4		127	20	6.4		
			0.6						
			0.8		144	37	3.9		
			1.0						
			1.2		166	59	2.8		
			1.4						
			1.6		197+	-	-		
			1.8						
			2.0		197+	-	-		
			2.2						
			2.4		197+	-	-		
	2.6								
	2.8	197+	-	-					
	3.0								
	3.2	UTP	-	-					
	3.4								
	3.6	UTP	-	-					
	3.8								
	4.0								
	4.2								
	4.4								
	EOH: 3.60m - Too Hard To Auger								

1.2m: Becoming orangey yellow

REMARKS
End of borehole @ 3.60m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM
CHECKED BY: DXS

▼ Standing groundwater level
▽ GW while drilling



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HAND AUGER : HA06

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: DR4802

ELEVATION: Ground

FACTOR: 1.55

DATUM:

CLIENT: Terroir Ltd
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOLD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	
Topsoil	TOPSOIL, brown & dark brown, moist		0.2	23/07/2024 ▼ ▽					
	NATURAL: Clayey SILT, orangey brown & grey, stiff, moist, moderate plasticity		0.4		71	31	2.3		
Waipapa Group	Gravelly SILT (COMPLETELY WEATHERED ROCK), orangey brown & grey, very stiff to hard, moist, no plasticity	0.6							
		0.8	96		40	2.4			
		1.0							
		1.2	UTP		-	-			
EOH: 1.50m - Too Hard To Auger		1.4							
		1.6	UTP		-	-	16		
		1.8							
		2.0							
		2.2							
		2.4							
		2.6							
		2.8							
		3.0							
		3.2							
		3.4							
		3.6							
3.8									
4.0									
4.2									
4.4									

REMARKS
 End of borehole @ 1.50m (Target Depth: 5.00m)
 Groundwater encountered @ 0.80m during drilling. Standing groundwater @ 0.50m.

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: NPN ▼ Standing groundwater level
 CHECKED BY: DXS ▽ GW while drilling

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HAND AUGER : HA07

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: DR4802

ELEVATION: Ground

FACTOR: 1.55

DATUM:

CLIENT: Terroir Ltd
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	
Topsoil	TOPSOIL, brown, moist	TS	0.0 - 0.2						
Waipapa Group	NATURAL: Clayey SILT, light greyish brown & orange, stiff, moist, moderate plasticity	[Silt Pattern]	0.2 - 0.6		71	25	2.8		
			0.6 - 1.0		93	37	2.5		
	EOH: 1.30m - Too Hard To Auger		1.0 - 1.3	UTP	-	-			
			1.3 - 1.4	UTP	-	-	20+		
			1.4 - 1.6						
			1.6 - 1.8						
			1.8 - 2.0						
			2.0 - 2.2						
			2.2 - 2.4						
			2.4 - 2.6						
			2.6 - 2.8						
			2.8 - 3.0						
			3.0 - 3.2						
			3.2 - 3.4						
			3.4 - 3.6						
			3.6 - 3.8						
			3.8 - 4.0						
			4.0 - 4.2						
			4.2 - 4.4						

REMARKS
 End of borehole @ 1.30m (Target Depth: 5.00m)
 Groundwater encountered @ 0.90m during drilling. Standing groundwater @ 0.60m.

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: NPN
 CHECKED BY: DXS

▼ Standing groundwater level
 ▽ GW while drilling



185 Waipapa Road, Kerikeri 0295
 Phone: 09-945 4188
 Email: jobs@wj.co.nz
 Website: www.wiltonjoubert.co.nz

HAND AUGER : HA08

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: DR4802

ELEVATION: Ground

FACTOR: 1.55

DATUM:

CLIENT: Terroir Ltd
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / mm)	
Topsol	TOPSOIL, brown, moist		0.2	Groundwater Not Encountered					
Waipapa Group	NATURAL: Clayey SILT, yellowish orange with brown streaks, very stiff, dry to moist, low to moderate plasticity		0.4		√217+	-	-		
			0.6						
			0.8		√186	62	3.0		
			1.0						
			1.2		√170	56	3.0		
			1.4						
	Slightly Clayey SILT, brown/orange/yellow, very stiff, moist, low to moderate plasticity		1.6		√217+	-	-		
	SILT with minor clay (COMPLETELY WEATHERED ROCK), light grey with white & orange streaks, very stiff, moist, no to low plasticity, slightly friable		1.8						
			2.0		√217+	-	-		
			2.2						
			2.4	√UTP	-	-			
			2.6						
			2.8	√UTP	-	-			
			3.0						
			3.2						
			3.4						
			3.6						
			3.8						
			4.0						
			4.2						
			4.4						
	EOH: 2.80m - Too Hard To Auger								

REMARKS

End of borehole @ 2.80m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: NPN

▼ Standing groundwater level

CHECKED BY: DXS

▽ GW while drilling



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HAND AUGER : HA09

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: 1994

ELEVATION: Ground

FACTOR: 1.41

DATUM:

CLIENT: Terroir Ltd
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS					
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)						
Topsoil	TOPSOIL, dark brown, moist	TS	0.0 - 0.1											
Waipapa Group	NATURAL: Clayey SILT, yellowish brown, very stiff, moist, low plasticity	[Silt Pattern]	0.1 - 1.0	Groundwater Not Encountered	\197+	-	-							
	1.0m: Becoming streaked red													
	Slightly Clayey SILT, pink/orange/yellow/white, very stiff, moist, no to low plasticity		1.0 - 1.8							\197+	-	-		
	SILT with minor clay (COMPLETELY WEATHERED ROCK), pink/orange/yellow/white, very stiff, moist, no to low plasticity, slightly friable, occasional manganese staining		1.8 - 4.0							\197+	-	-		
			2.0 - 2.2							\197+	-	-		
			2.2 - 2.4							\197+	-	-		
			2.4 - 2.6							\197+	-	-		
			2.6 - 2.8							\197+	-	-		
			2.8 - 3.0							\197+	-	-		
			3.0 - 3.2							\197+	-	-		
	3.2 - 3.4	\197+	-	-										
	3.4 - 3.6	\197+	-	-										
	3.6 - 3.8	\197+	-	-										
	3.8 - 4.0	\197+	-	-										
	EOH: 4.00m - Too Hard To Auger		4.0		\UTP	-	-	20+						
			4.2											
			4.4											

REMARKS
End of borehole @ 4.00m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM
CHECKED BY: DXS

▼ Standing groundwater level
▽ GW while drilling



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HAND AUGER : HA10

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: 772

ELEVATION: Ground

FACTOR: 1.6

DATUM:

CLIENT: Terroir Ltd
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	
Topsol	TOPSOIL, dark brown, moist		0.0 - 0.2						
Waipapa Group	NATURAL: Clayey SILT, yellowish brown with greyish light brown streaks, very stiff, moist, moderate plasticity 0.8m: Occasional light orange streaks 1.1m: Becoming yellowish brown & pinkish orange with white streaks 1.4m: Becoming pinkish orange with yellowish brown streaks & white mottles, low to moderate plasticity		0.2 - 0.4	Groundwater Not Encountered	192	48	4.0		
			0.4 - 0.6						
			0.6 - 0.8						
			0.8 - 1.0		224+	-	-		
			1.0 - 1.2						
			1.2 - 1.4		224+	-	-		
			1.4 - 1.6						
			1.6 - 1.8		224+	-	-		
			1.8 - 2.0						
			2.0 - 2.2		224+	-	-		
	SILT with minor clay (COMPLETELY WEATHERED ROCK), pinkish orange with yellowish brown & white mottles, very stiff to hard, no to low plasticity, slightly friable		2.2 - 2.4						
			2.4 - 2.6						
			2.6 - 2.8						
			2.8 - 3.0	UTP	-	-			
	EOH: 3.10m - Too Hard To Auger		3.0 - 3.2	UTP	-	-	11		
			3.2 - 3.4				10		
			3.4 - 3.6				10		
			3.6 - 3.8				11		
			3.8 - 4.0				11		
			4.0 - 4.2				14		
			4.2 - 4.4				20+		

REMARKS
End of borehole @ 3.10m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: SJP
CHECKED BY: DXS

Standing groundwater level
GW while drilling



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Consulting Engineers

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HAND AUGER : HA11

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: DR4802

ELEVATION: Ground

FACTOR: 1.55

DATUM:

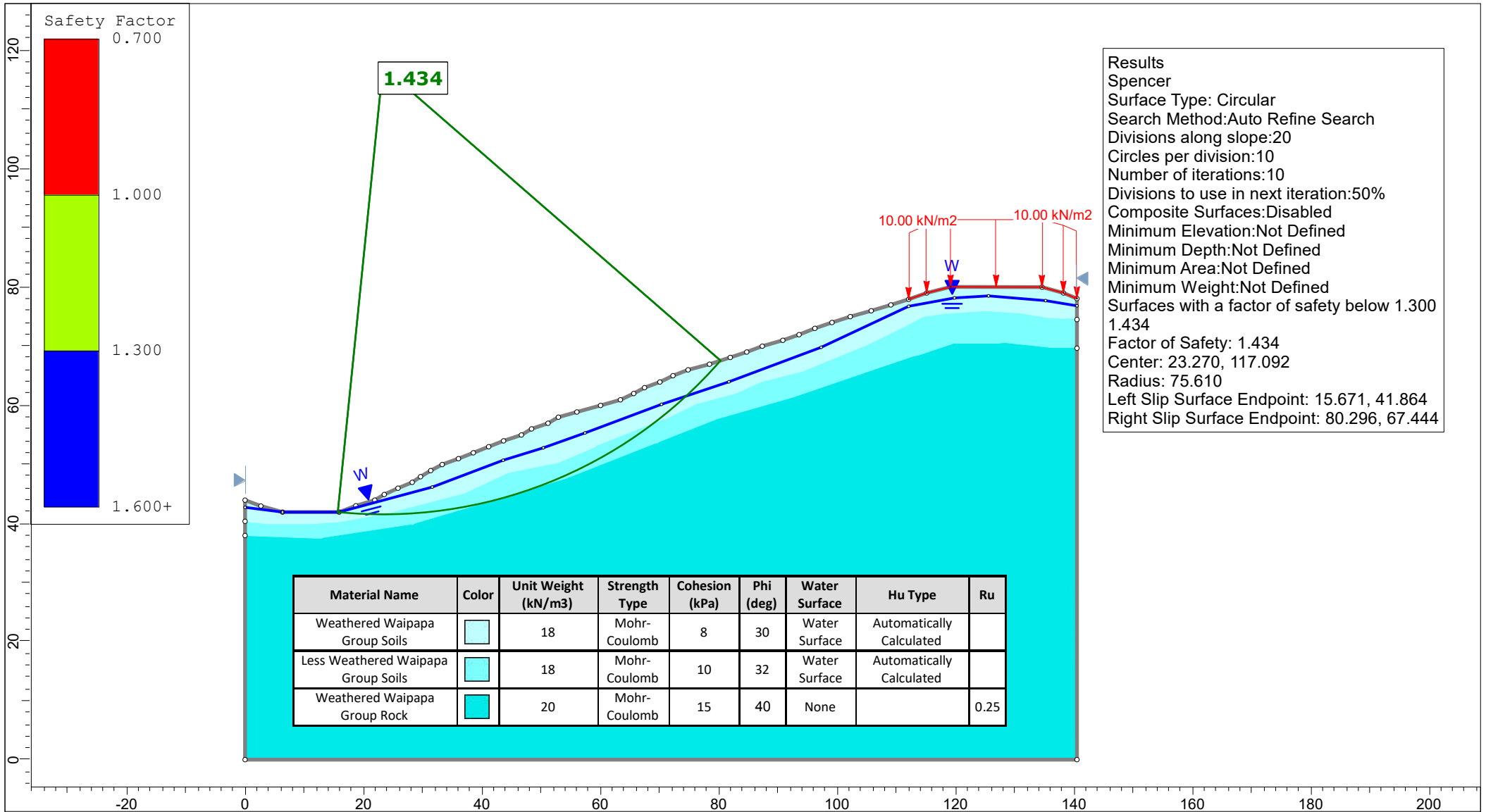
CLIENT: Terroir Ltd
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / mm)	
Waipapa Group	NATURAL: Clayey SILT, light brownish yellow with orange & pink streaks, very stiff, moist, low to moderate plasticity		0.2	Groundwater Not Encountered					
			0.4						
			0.6						
			0.8						
			1.0						
			1.2						
			1.4						
	SILT with minor clay (COMPLETELY WEATHERED ROCK), greyish white with orange brown streaks, very stiff to hard, dry to moist, no to low plasticity, slightly friable		1.4						
			1.6						
			1.8						
	1.8m: Some weakly cemented clast (<20mmø) inclusions		1.8						
			2.0						
	EOH: 2.00m - Too Hard To Auger		2.0						
			2.2						
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						
			3.6						
			3.8						
			4.0						
			4.2						
			4.4						

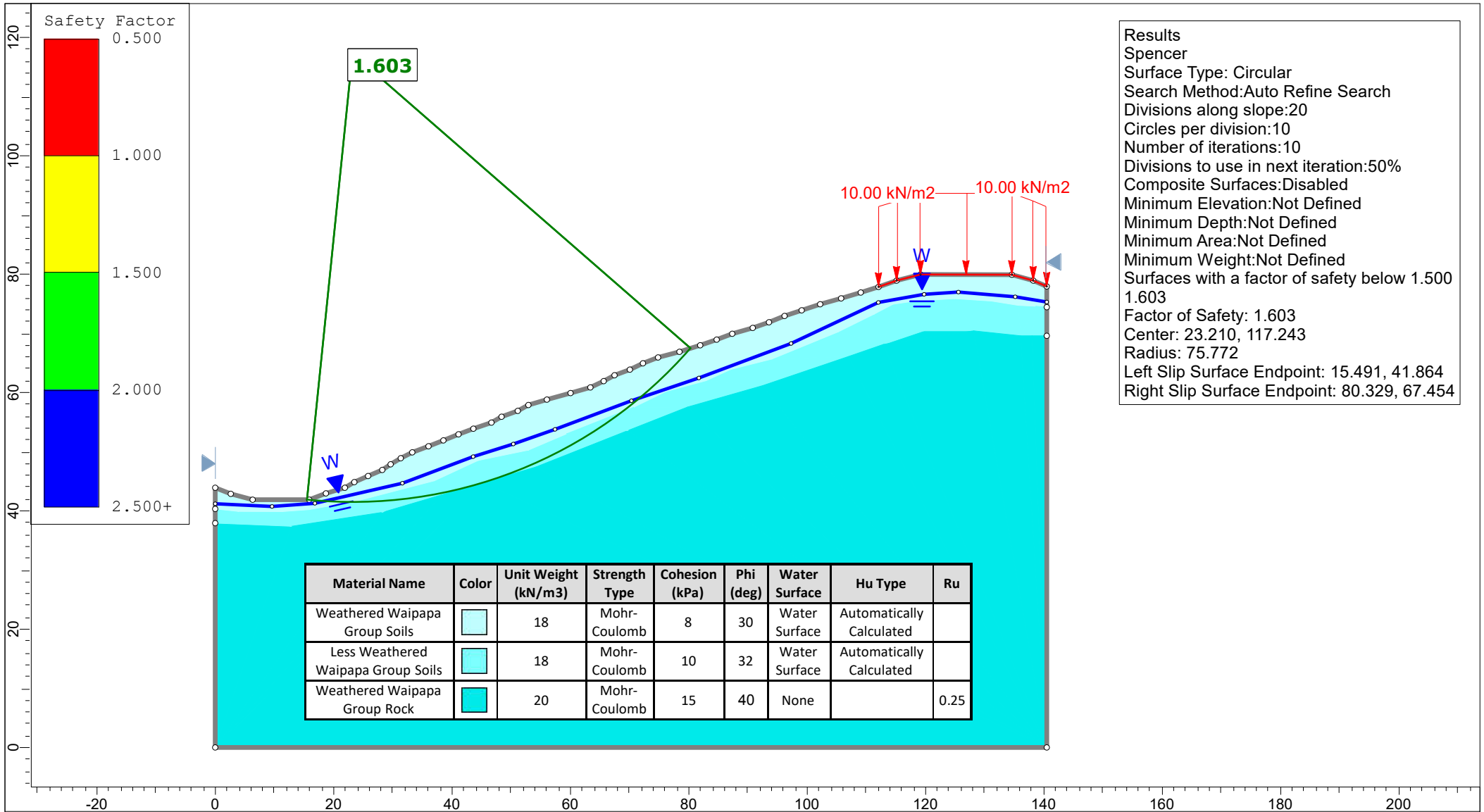
REMARKS End of borehole @ 2.00m (Target Depth: 5.00m)	
<p>185 Waipapa Road, Kerikeri 0295 Phone: 09-945 4188 Email: jobs@wj.co.nz Website: www.wiltonjoubert.co.nz Consulting Engineers</p>	
LOGGED BY: NPN	▼ Standing groundwater level
CHECKED BY: DXS	▽ GW while drilling

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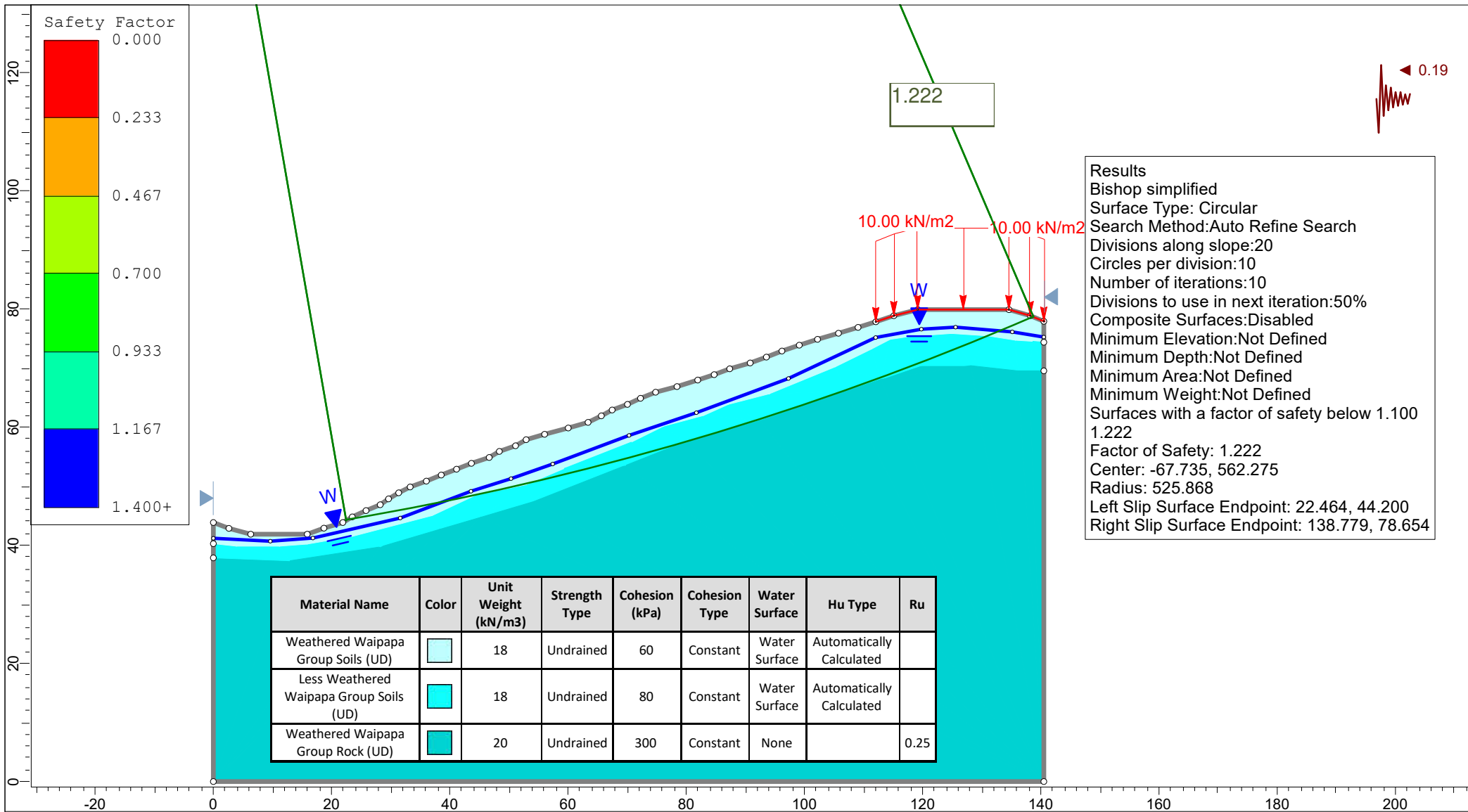


Results
 Spencer
 Surface Type: Circular
 Search Method: Auto Refine Search
 Divisions along slope: 20
 Circles per division: 10
 Number of iterations: 10
 Divisions to use in next iteration: 50%
 Composite Surfaces: Disabled
 Minimum Elevation: Not Defined
 Minimum Depth: Not Defined
 Minimum Area: Not Defined
 Minimum Weight: Not Defined
 Surfaces with a factor of safety below 1.300
 1.434
 Factor of Safety: 1.434
 Center: 23.270, 117.092
 Radius: 75.610
 Left Slip Surface Endpoint: 15.671, 41.864
 Right Slip Surface Endpoint: 80.296, 67.444

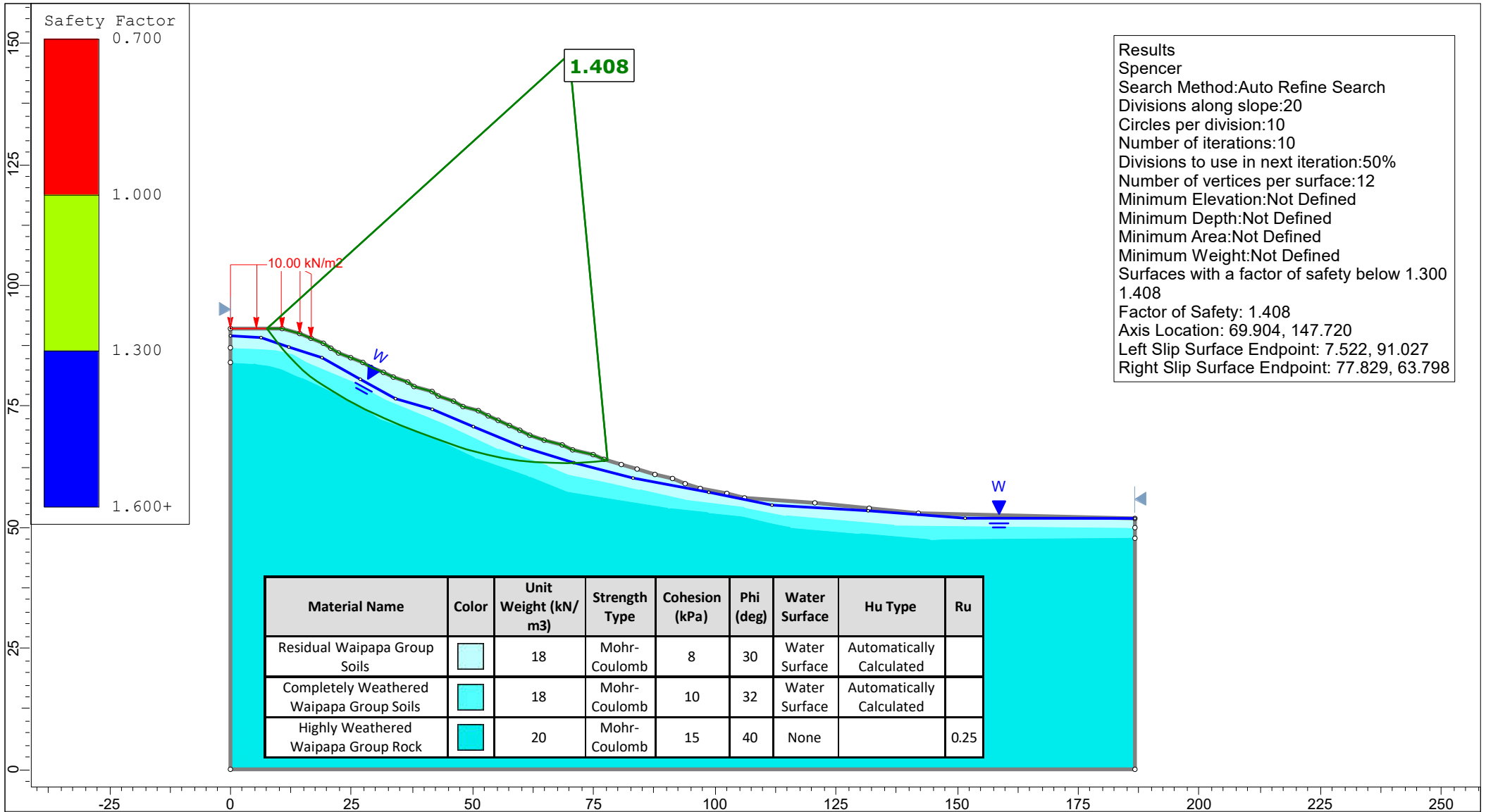
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	Group	Section A-A' - Southwest	Scenario	Extreme Groundwater
	Drawn By	Nikora Ngaropo	Company	Wilton Joubert Consulting Engineers Ltd
	Date	25/07/2024, 5:25:35 PM	File Name	LOT 1 - SOUTHWEST.sldm



	Project	135301 - Proposed Lot 1 - 154 Te Raupo Road, Opua		
	Group	Section A-A' - Southwest	Scenario	Moderate Groundwater
	Drawn By	Nikora Ngaropo	Company	Wilton Joubert Consulting Engineers Ltd
	Date	25/07/2024, 5:25:35 PM	File Name	LOT 1 - SOUTHWEST.slm

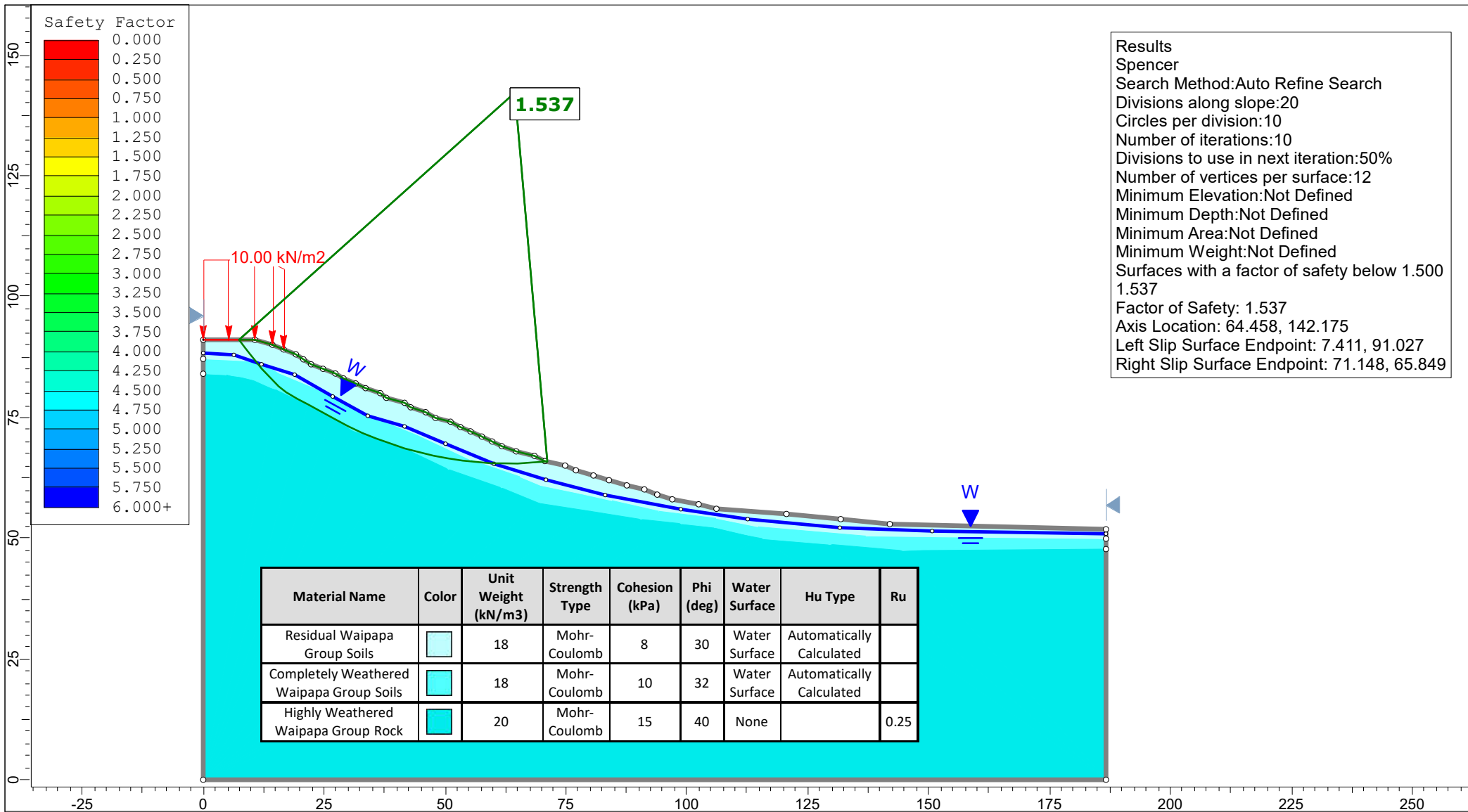


	Project		135301 - Proposed Lot 1 - 154 Te Raupo Road, Opua	
	Group	Section A-A' - Southwest	Scenario	seismic
	Drawn By	Nikora Ngaropo	Company	Wilton Joubert Consulting Engineers Ltd
	Date	25/07/2024, 5:25:35 PM	File Name	LOT 1 - SOUTHWEST.sldm



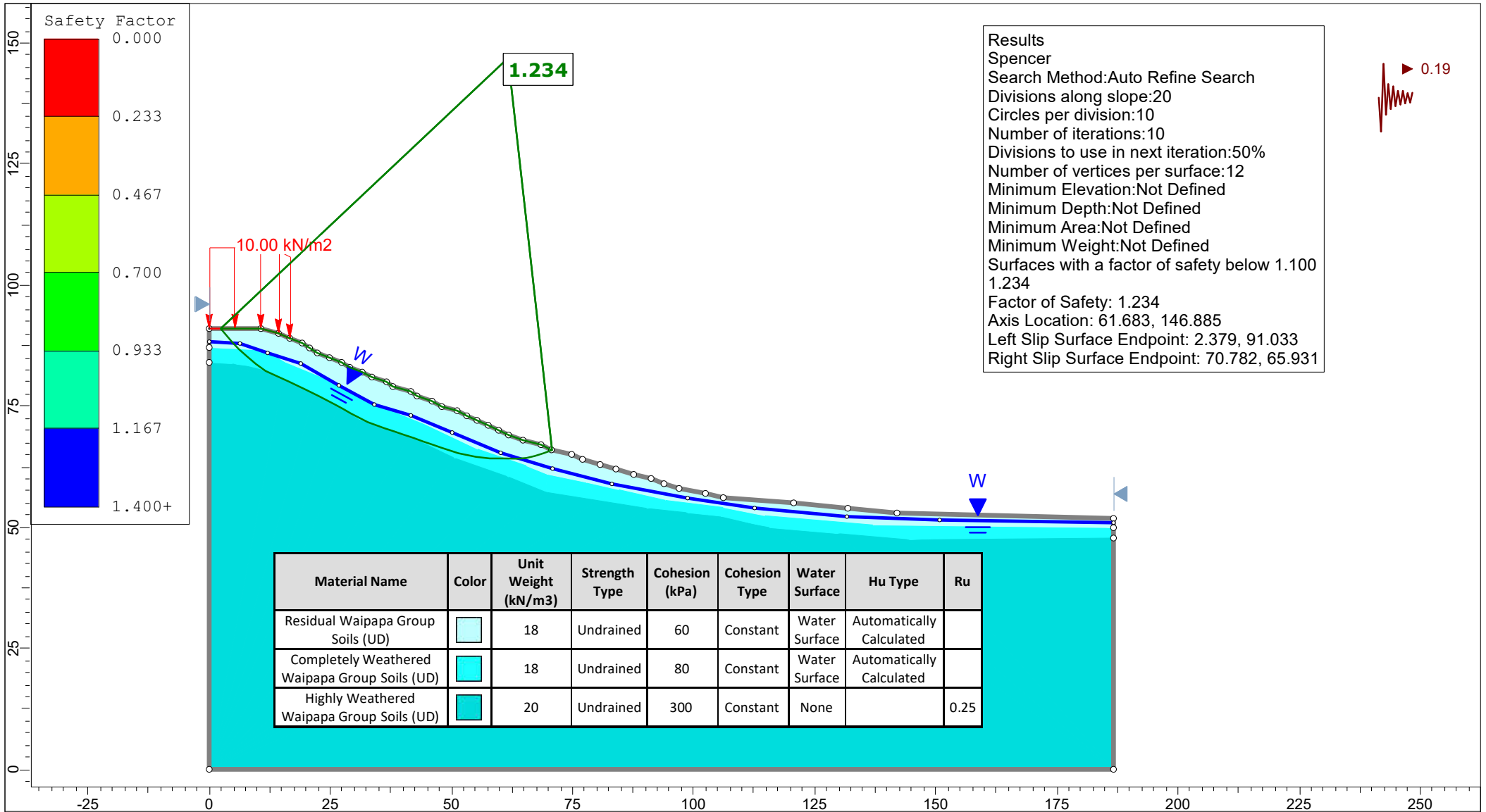
Results
 Spencer
 Search Method: Auto Refine Search
 Divisions along slope: 20
 Circles per division: 10
 Number of iterations: 10
 Divisions to use in next iteration: 50%
 Number of vertices per surface: 12
 Minimum Elevation: Not Defined
 Minimum Depth: Not Defined
 Minimum Area: Not Defined
 Minimum Weight: Not Defined
 Surfaces with a factor of safety below 1.300
 1.408
 Factor of Safety: 1.408
 Axis Location: 69.904, 147.720
 Left Slip Surface Endpoint: 7.522, 91.027
 Right Slip Surface Endpoint: 77.829, 63.798

	<i>Project</i>		135301 - Proposed Lot 1 - 154 Te Raupo Road, Opua		
	<i>Group</i>		Section A-A' North	<i>Scenario</i>	Extreme Groundwater
	<i>Drawn By</i>		Nikora Ngaropo	<i>Company</i>	Wilton Joubert Consulting Engineers Ltd
	<i>Date</i>		26/07/2024, 2:25:14 PM	<i>File Name</i>	LOT 1 - NORTH.slmd

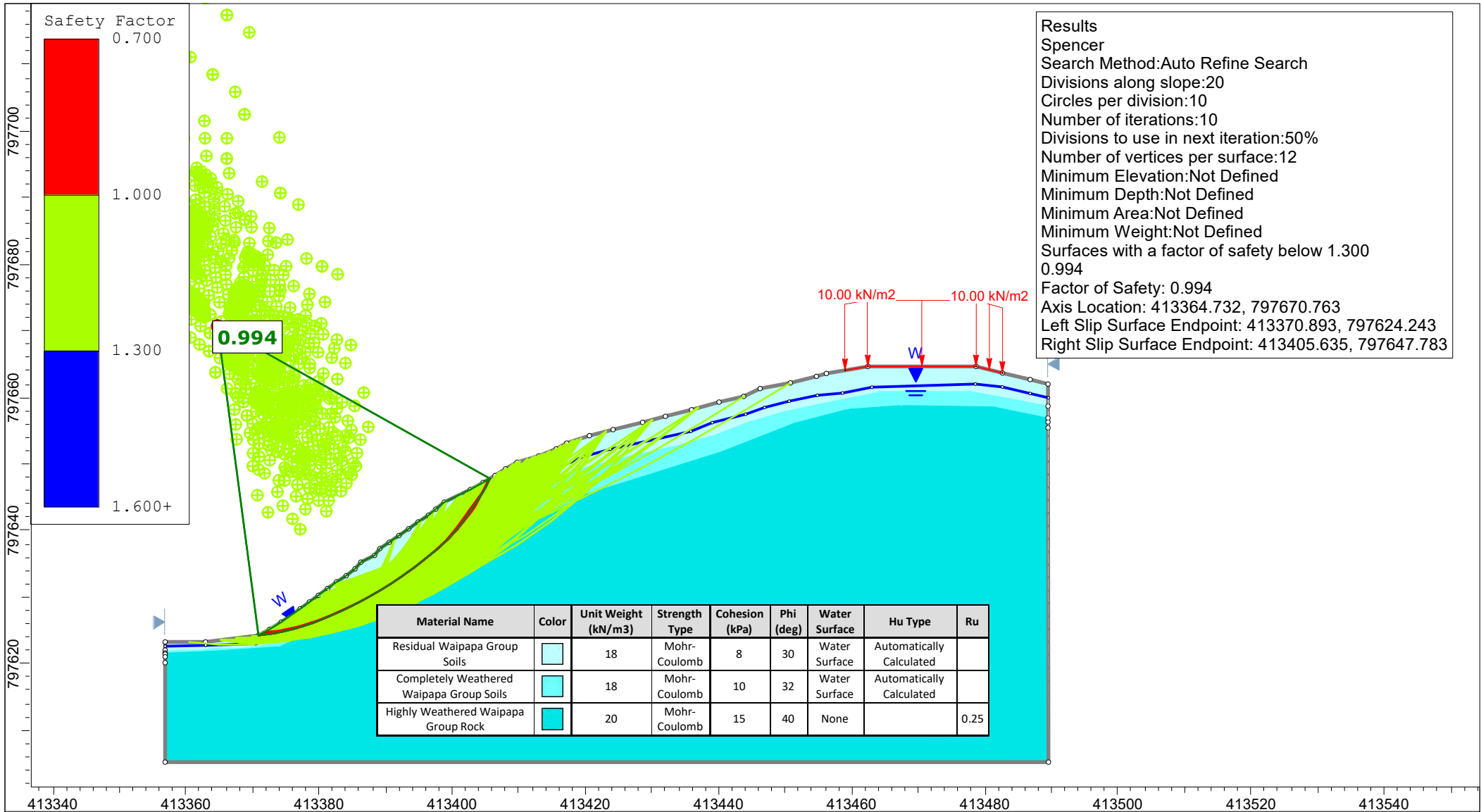


Results
 Spencer
 Search Method: Auto Refine Search
 Divisions along slope: 20
 Circles per division: 10
 Number of iterations: 10
 Divisions to use in next iteration: 50%
 Number of vertices per surface: 12
 Minimum Elevation: Not Defined
 Minimum Depth: Not Defined
 Minimum Area: Not Defined
 Minimum Weight: Not Defined
 Surfaces with a factor of safety below 1.500
 1.537
 Factor of Safety: 1.537
 Axis Location: 64.458, 142.175
 Left Slip Surface Endpoint: 7.411, 91.027
 Right Slip Surface Endpoint: 71.148, 65.849

	Project	135301 - Proposed Lot 1 - 154 Te Raupo Road, Opua	
	Group	Section A-A' North	Scenario: Moderate Groundwater
	Drawn By	Nikora Ngaropo	Company: Wilton Joubert Consulting Engineers Ltd
	Date	26/07/2024, 2:25:14 PM	File Name: LOT 1 - NORTH.slmd

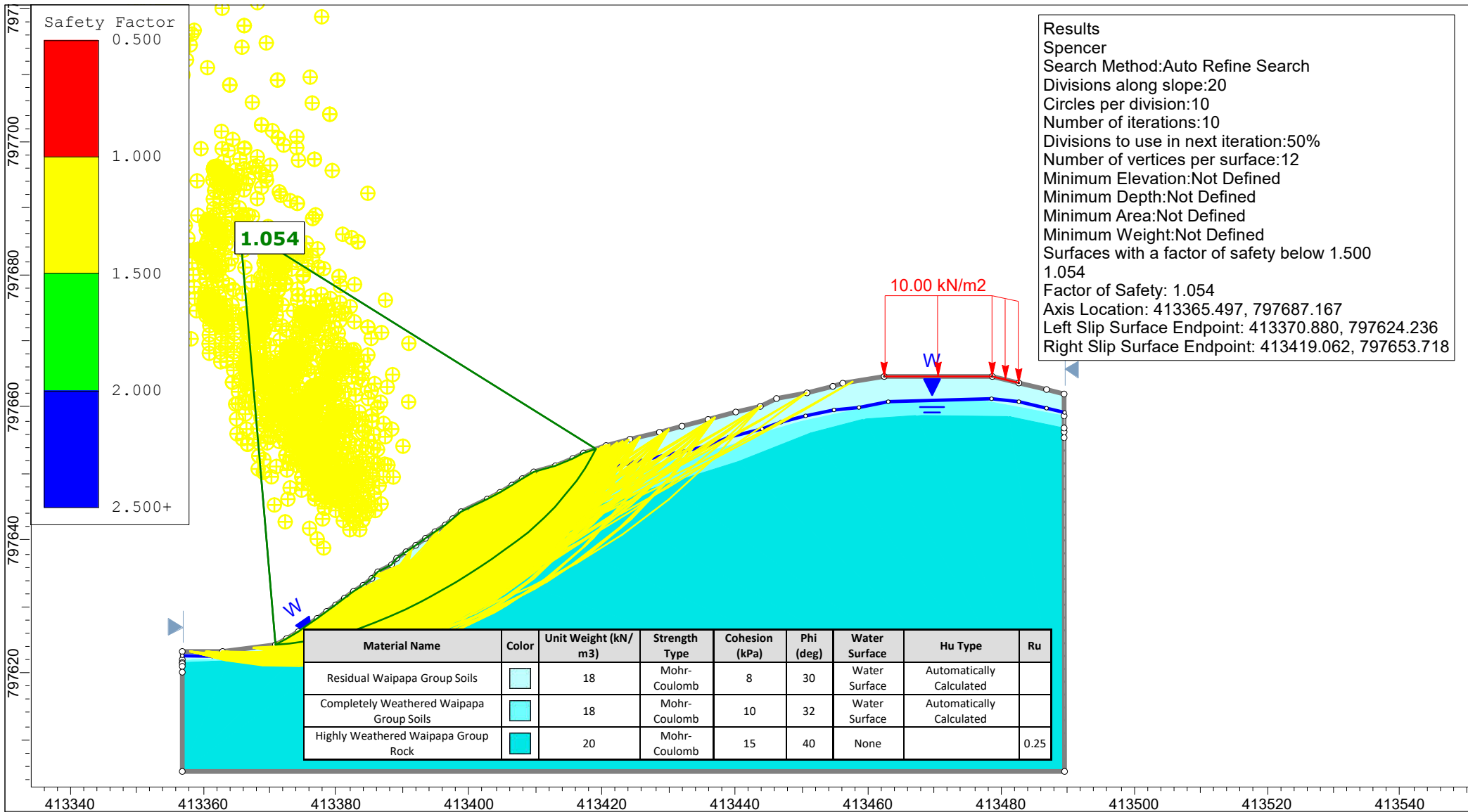


	Project	135301 - Proposed Lot 1 - 154 Te Raupo Road, Opua	
	Group	Section A-A' North	Scenario Seismic
	Drawn By	Nikora Ngaropo	Company Wilton Joubert Consulting Engineers Ltd
	Date	26/07/2024, 2:25:14 PM	File Name LOT 1 - NORTH.slmd



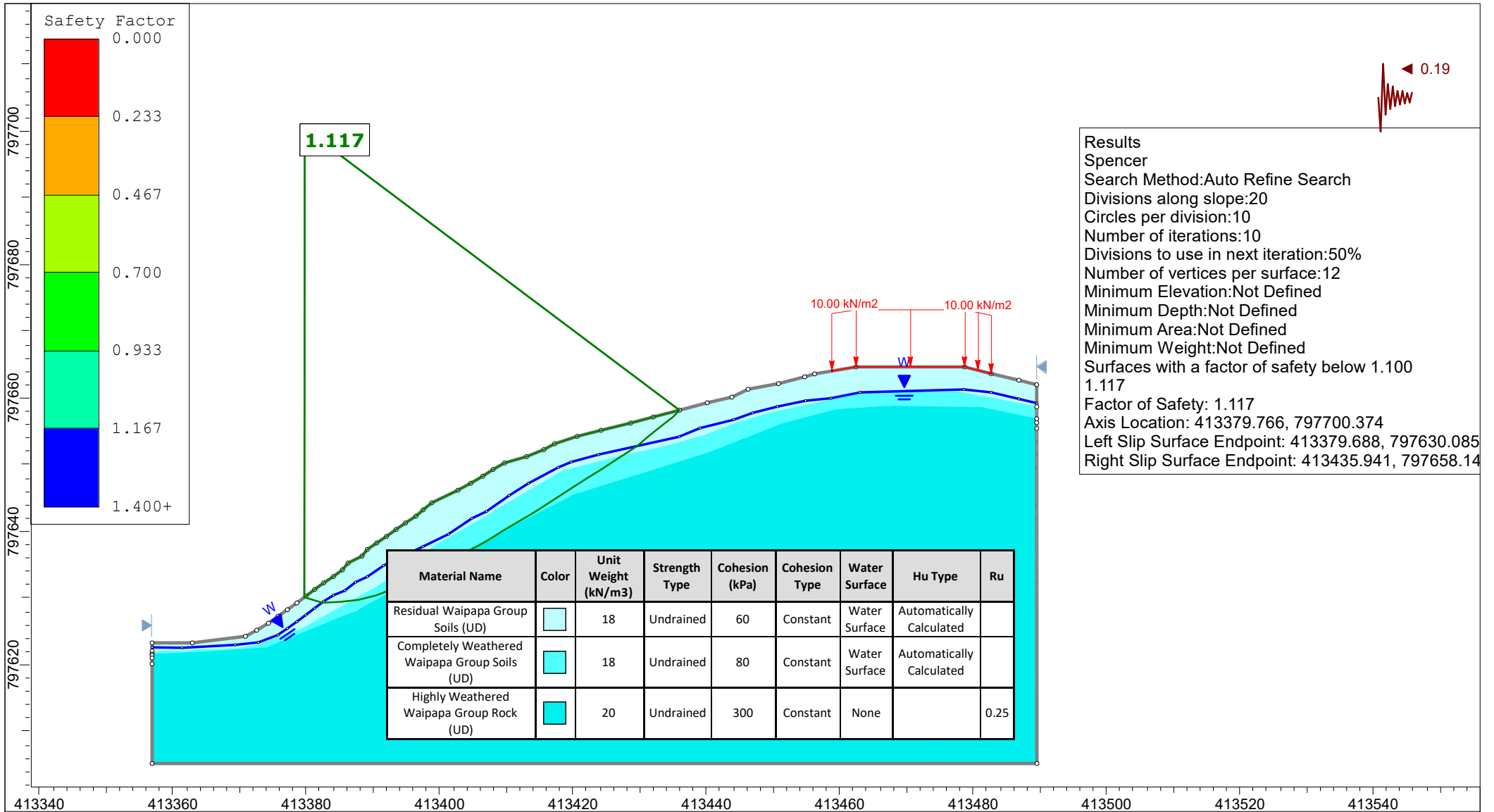
Results
 Spencer
 Search Method: Auto Refine Search
 Divisions along slope: 20
 Circles per division: 10
 Number of iterations: 10
 Divisions to use in next iteration: 50%
 Number of vertices per surface: 12
 Minimum Elevation: Not Defined
 Minimum Depth: Not Defined
 Minimum Area: Not Defined
 Minimum Weight: Not Defined
 Surfaces with a factor of safety below 1.300
 0.994
 Factor of Safety: 0.994
 Axis Location: 413364.732, 797670.763
 Left Slip Surface Endpoint: 413370.893, 797624.243
 Right Slip Surface Endpoint: 413405.635, 797647.783

	Project	135301 - Proposed Lot 2 - 154 Te Raupo Road, Opua		
	Group	Section B-B'	Scenario	Extreme Groundwater
	Drawn By	Nikora Ngaropo	Company	Wilton Joubert Consulting Engineers Ltd
	Date	25/07/2024, 4:03:26 PM	File Name	LOT 2 - NORTHWEST.slm



Results
 Spencer
 Search Method:Auto Refine Search
 Divisions along slope:20
 Circles per division:10
 Number of iterations:10
 Divisions to use in next iteration:50%
 Number of vertices per surface:12
 Minimum Elevation:Not Defined
 Minimum Depth:Not Defined
 Minimum Area:Not Defined
 Minimum Weight:Not Defined
 Surfaces with a factor of safety below 1.500
 1.054
 Factor of Safety: 1.054
 Axis Location: 413365.497, 797687.167
 Left Slip Surface Endpoint: 413370.880, 797624.236
 Right Slip Surface Endpoint: 413419.062, 797653.718



	Project	135301 - Proposed Lot 2 - 154 Te Raupo Road, Opua	
	Group	Section B-B'	Scenario Moderate Groundwater
	Drawn By	Nikora Ngaropo	Company Wilton Joubert Consulting Engineers Ltd
	Date	25/07/2024, 4:03:26 PM	File Name LOT 2 - NORTHWEST.slm



	Project	135301 - Proposed Lot 2 - 154 Te Raupo Road, Opua	
	Group	Section B-B'	Scenario: Seismic
	Drawn By	Nikora Ngaropo	Company: Wilton Joubert Consulting Engineers Ltd
	Date	25/07/2024, 4:03:26 PM	File Name: LOT 2 - NORTHWEST.sldm

SITE	154 Te Raupo Road, Opua
LEGAL DESCRIPTION	Allot 271 PSH OF Kawakawa & Lot 1 LT 604018
PROJECT	3-Lot Subdivision
CLIENT	Sielia Trust
REFERENCE NO.	135318
DOCUMENT	Civil Site Suitability Report
STATUS/REVISION NO.	C – Resource Consent
DATE OF ISSUE	30 September 2024

Report Prepared For	Attention	Email
Sielia Trust	Stephen Mason	stephen@terroirltd.co.nz

Authored by	G.M. Brant <i>(Be (Hons) Civil)</i>	Civil Engineer	gustavo@wjl.co.nz	
Reviewed & Approved by	B. Steenkamp <i>(CPEng, BEng Civil, CMEngNZ, BSc (Geology))</i>	Senior Civil Engineer	bens@wjl.co.nz	

1 EXECUTIVE SUMMARY

The following table is intended to be a concise summary which must be read in conjunction with the relevant report sections as referenced herein.

Legal Description:	Proposed Subdivision of Allot 271 PSH OF Kawakawa & Lot 1 LT 604018
Lot Sizes:	Proposed Lot 1 – 8.5320ha Proposed Lot 2 – 5.5458ha Proposed Lot 3 – 7.1369ha
Development Type:	3-Lot Subdivision
Scope:	Civil Site Suitability Investigation: <ul style="list-style-type: none">- Wastewater Assessment- Stormwater Assessment- Access Assessment (Lots 1 & 2)
Development Proposals Supplied:	Subdivision Scheme Plan, supplied by Thomson Survey, titled; “Proposed Subdivision of Allotment 271 PSH Kawakawa & Lot 1 LT 604018 (RC 2240273)” (Ref No: 9112, dated: 11.07.2024).
Associated Documents:	WJL Geotechnical Site Suitability Report Ref. 135301
Wastewater:	Recommendations for wastewater are provided in Section 5.
District Plan Zone:	General Coastal Zone
Stormwater Management – District Plan Rules:	<p>Permitted Activity: 10.6.5.1.6 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 10%.</p> <p>Controlled Activity: 10.6.5.2.3 STORMWATER MANAGEMENT – The maximum proportion or amount of the gross site area covered by buildings and other impermeable surfaces shall be 15% or 4,000m², whichever is the lesser.</p>
Stormwater Management:	<p>The maximum permitted impermeable areas for Lots 1, 2 and 3 are 8,532m², 5,545.8m² and 7,136.9m² respectively.</p> <p>Given the large impermeable area allowances for Lots 1 – 3, we expect that any existing and future proposed residential development would comply with Permitted Activity Rule (10.6.5.1.6). As such, we do not envision that a site-specific attenuation report will be required for the proposed lots.</p> <p>Stormwater management recommendations are provided in Section 6.</p>
Access:	Access recommendations provided in Section 7.

2 INTRODUCTION

2.1 SCOPE OF WORK

Wilton Joubert Limited (WJL) were engaged by **Sielia Trust** to undertake a civil site suitability assessment to support a 3-lot subdivision of Allot 271 PSH OF Kawakawa & Lot 1 LT 604018, as depicted to us on the supplied Subdivision Scheme Plan, supplied by Thomson Survey, titled; “Proposed Subdivision of Allotment 271 PSH Kawakawa & Lot 1 LT 604018 (RC 2240273)” (Ref No: 9112, dated: 11.07.2024).

At the time of report writing, no development plans have been supplied to WJL for the existing development within proposed Lot 3, nor any future development of Lots 1 & 2.

The scope of work included in this report is as follows:

- Wastewater Assessment
- Stormwater Assessment
- Access Assessment (Lots 1 & 2)

A Geotechnical Site Suitability Report (WJL Ref. 135301) has been prepared by WJL for the proposed subdivision which should be read in conjunction with this report.



Figure 1: Subdivision Scheme Plan supplied by Thomson Survey.

Any revision of the supplied drawings and/or development proposals with wastewater, stormwater and/or access implications should be referred back to us for review. This report is not intended to support Building Consent applications for the future proposed lots, and any revision of supplied drawings and/or development proposals including those for Building Consent, which might rely on wastewater, stormwater and/or access assessments herein, should be referred to us for review.

3 SITE DESCRIPTION

The combined 23.2567ha General Coastal zoned adjoining blocks are located on the south-eastern outskirts of the Opua district, overlooking the Kawakawa River tidal environment. The blocks are currently accessed at the south-western boundary of subject **Allot 271 PSH OF Kawakawa**, 770m southeast of the Te Raupo Road intersection via a shared right-of-way (ROW). The ROW traverses through neighbouring allotment Sec 4 BLK XII Kawakawa SD and the inactive Opua-Kawakawa Railway Track to the west. The ROW then traverses west to east through the subject blocks, providing access to two neighbouring allotments at the eastern boundary of subject **Lot 1 LT 604018**.

The densely bush covered blocks are set around a prominent ridgeline that straddles most of the noted ROW. The ridgeline is bound by the Kawakawa River to the north and south and is generally elevated approximately 40m above. Moderate to steeply sloping side flanks fall to the northwest and southeast from the ridgeline. A prominent spur trends from the ridgeline towards the northwest at the western end of the blocks, with additional southeast trending spurs present at the southern and south-eastern areas. The surrounding properties are set on similar landform features. Numerous steeper gully features are scattered throughout.

At the eastern end of the blocks, a southwest to northeast trending, former access track is located slightly above the ROW, to the northwest.

At the time of preparing this report, we note that the Far North District Council (FNDC) on-line GIS Water Services Map indicates that reticulated water, wastewater, and stormwater service connections are not available to the property.



Figure 2: Screenshot Aerial View of the Site from Google Earth. Red Circle Approximately Depicts Subject Development Location.

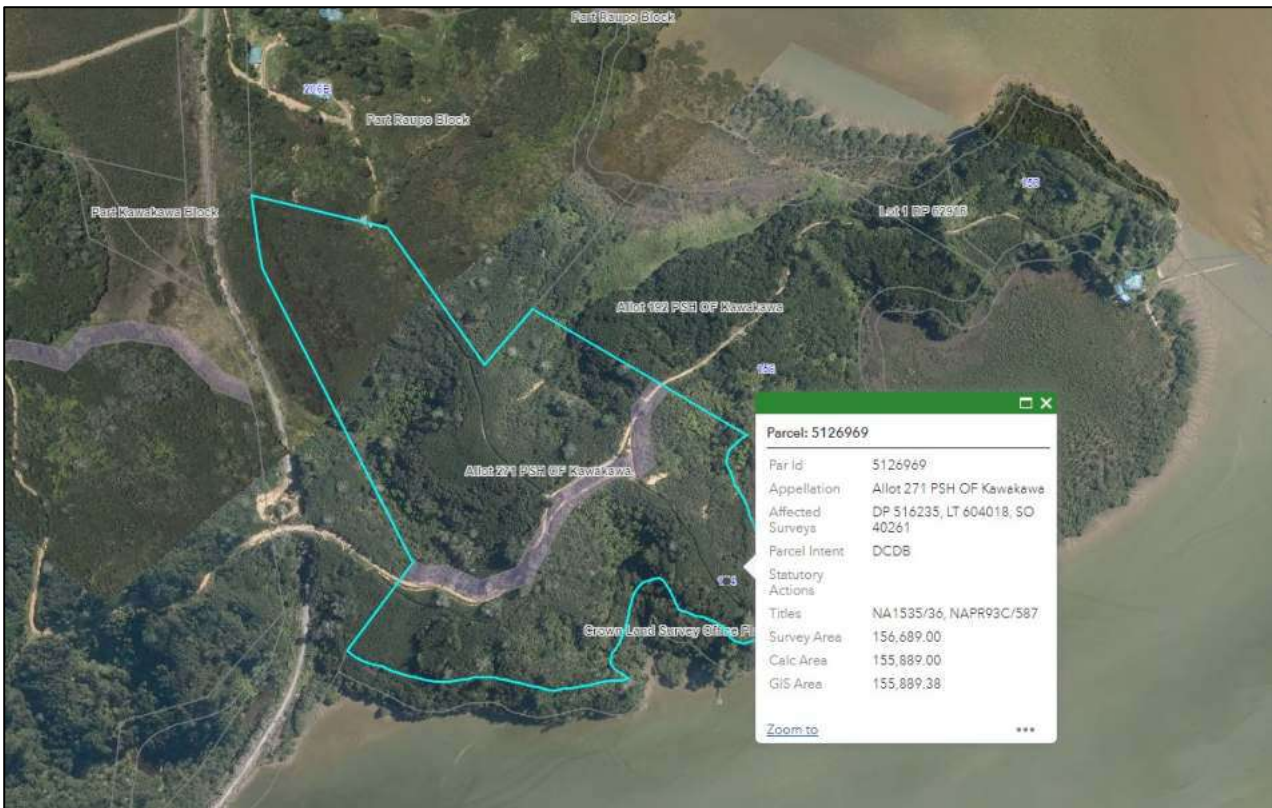


Figure 3: Screenshot Aerial View of the Subject Site from the FNDC on-line GIS Property and Land Map. Subject Allot 271 PSH OF Kawakawa Block Site is Highlighted in Cyan.



Figure 4: Screenshot Aerial View of the Subject Site from the FNDC on-line GIS Property and Land Map. Subject Lot 1 LT 604018 is Highlighted in Cyan.

4 PUBLISHED GEOLOGY

Local geology at the property is noted on the GNS Science New Zealand Geology Web Map, Scale 1:250,000, as Waipapa Group sandstone and siltstone (Waipapa Composite Terrane), described as; “*Massive to thin bedded, lithic volcanoclastic metasandstone and argillite, with tectonically enclosed basalt, chert and siliceous argillite.*”, refer; ‘GNS Science Website’.



Figure 5: Screenshot from New Zealand Geology Web Map hosted by GNS Science.

In addition to the above, geotechnical testing was conducted by WJL within the subject site in July 2024.

In general terms, the subsoils encountered consisted predominantly of Clayey SILT. Approximately 0mm-300mm of TOPSOIL was overlying the investigated area. Refer to the appended ‘BH Logs’. Given the above, the site’s soils have been classified **Category 5** in accordance with the TP58 design manual.

5 WASTEWATER

Lots 1 & 2

No existing wastewater management system is present within proposed Lots 1 & 2. As such, a new site-specific design in accordance with the ASNZS: 1547 / TP58 design manual will be required by FNDC for any future development within the proposed lots. This should be conditioned as part of the Resource Consent process.

Lot 3

The existing residential dwelling on proposed Lot 3 is currently serviced by an existing approved on-site wastewater management system.

Review of as-built plans provided by the client indicates that the entirety of the approved wastewater system is located within Lot 3’s boundaries.

Given the above, we recommend that the existing wastewater system continue to service proposed Lot 3.

5.1 DESIGN PARAMETERS

The following table is intended to be a concise summary of the design parameters, which must be read in conjunction with the relevant report sections as referenced herein.

As no development proposals are available at this stage for the eventual residential development within Lots 1 & 2, our recommendations have been based on a moderate size dwelling containing 4 bedrooms.

Given the subsoils encountered during WJL's fieldwork investigation, we recommend secondary treatment or higher for any new wastewater treatment system within the proposed lots.

5.1.1 Summary of Preliminary Design Parameters for a PCDI Secondary Treatment System

Development Type:	Residential Dwellings
Effluent Treatment Level:	Secondary (<BOD5 20 mg/L, TSS 30 mg/L)
Fill Encountered in Disposal Areas:	No
Water Source:	Rainwater Collection Tanks
Site Soil Category (TP58):	Category 5 –Clayey SILT – Moderate to Slow Drainage
Estimate House Occupancy:	6 Persons
Loading Rate:	PCDI System – 3mm/day
Estimated Total Daily Wastewater Production per Lot:	1,080L
Typical Wastewater Design Flow Per Person:	180l/pp/pd (Estimated – introduction of water conservation devices may enable lower design flows)
Application Method:	Surface Laid PCDI Lines
Loading Method:	Dosed
Minimum Tank size:	>1,080L
Emergency Storage:	24 hours
Estimated Min. Disposal Area Requirement:	360m ² - Areas < 14° 360m ² + 50% = 540m ² - Areas > 14°
Required Min. Reserve Area:	100% Recommended
Buffer Zone:	Required.
Cut-off Drain:	Required depending on final field location.

5.2 REQUIRED SETBACK DISTANCES

The disposal and reserve areas must be situated outside the relevant exclusion areas and setbacks described within Table 9 of the PRPN: Exclusion areas and setback distances for on-site domestic wastewater systems:

Feature	Primary treated domestic type wastewater	Secondary and tertiary treated domestic type wastewater	Greywater
<i>Exclusion areas</i>			
Floodplain	5 percent annual exceedance probability	5 percent annual exceedance probability	5 percent annual exceedance probability
<i>Horizontal setback distances</i>			
Identified stormwater flow path (including a formed road with kerb and channel, and water-table drain) that is down-slope of the disposal area	5 metres	5 metres	5 metres
River, lake, stream, pond, dam or natural wetland	20 metres	15 metres	15 metres
Coastal marine area	20 metres	15 metres	15 metres
Existing water supply bore	20 metres	20 metres	20 metres
Property boundary	1.5 metres	1.5 metres	1.5 metres
<i>Vertical setback distances</i>			
Winter groundwater table	1.2 metres	0.6 metres	0.6 metres

Figure 6: Table 9 of the PRPN (Proposed Regional Plan for Northland).

Depending on the development, the effluent disposal field may need to be located on steep grades. We recommend increasing the disposal field area by 50% and provide 100% reserve area for slopes >14 degrees while maintaining the required clearances. Surface pinned driplines may be spaced at a maximum of 1.5m c/c. A suitably qualified professional must be engaged to do a specific design at Building Consent Stage.

5.3 NORTHLAND REGIONAL PLAN ASSESSMENT

Lot 3's existing wastewater disposal system should meet the compliance points below, stipulated within Section C.6.1.1 of the Proposed Regional Plan for Northland:

C.6.1.1 Existing on-site domestic type wastewater discharge – permitted activity	
The discharge of domestic type wastewater into or onto land from an on-site system and the associated discharge of odour into air from the on-site system are permitted activities, provided:	
#	Rule
	the discharge volume does not exceed:
1	a) three cubic metres per day, averaged over the month of greatest discharge, and
	b) six cubic metres per day over any 24-hour period, and
	the following reserve disposal areas are available at all times:
2	a) one hundred percent of the existing effluent disposal area where the wastewater has received primary treatment or is only comprised of greywater, or
	b) thirty percent of the existing effluent disposal area where the wastewater has received at least secondary treatment, and
3	the on-site system is maintained so that it operates effectively at all times and maintenance is undertaken in accordance with the manufacturer's specifications, and
4	wastewater irrigation lines are at all times either installed at least 50 millimetres beneath the surface of the disposal area or are covered by a minimum of 50 millimetres of topsoil, mulch, or bark, and
5	the discharge does not contaminate any groundwater supply or surface water, and
6	there is no surface runoff or ponding of wastewater, and
7	there is no offensive or objectionable odour beyond the property boundary.

Any future wastewater disposal system should meet the compliance points below, stipulated within Section C.6.1.3 of the Proposed Regional Plan for Northland:

C.6.1.3 Other on-site treated domestic wastewater discharge– permitted activity	
The discharge of domestic type wastewater into or onto land from an on-site system and the associated discharge of odour into air from the on-site system are permitted activities, provided:	
#	Rule
1	The on-site system is designed and constructed in accordance with the Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012), and
2	The volume of wastewater discharged does not exceed two cubic metres per day, and
3	The discharge is not via a spray irrigation system or deep soakage system, and

4	The slope of the disposal area is not greater than 25 degrees, and
5	The wastewater has received secondary or tertiary treatment and is discharged via a trench or bed in soil categories 3 to 5 that is designed in accordance with Appendix L of Australian/New Zealand Standard. On-site Domestic Wastewater Management (AS/NZS 1547:2012); or is via an irrigation line system that is:
	a) dose loaded, and
	b) covered by a minimum of 50 millimetres of topsoil, mulch, or bark, and
	For the discharge of wastewater onto the surface of slopes greater than 10 degrees:
6	a) the wastewater, excluding greywater, has received at least secondary treatment, and
	b) the irrigation lines are firmly attached to the disposal area, and
	c) where there is an up-slope catchment that generates stormwater runoff, a diversion system is installed and maintained to divert surface water runoff from the up-slope catchment away from the disposal area, and
	d) a minimum 10 metre buffer area down-slope of the lowest irrigation line is included as part of the disposal area, and
	e) the disposal area is located within existing established vegetation that has at least 80 percent canopy cover, or
	f) the irrigation lines are covered by a minimum of 100 millimetres of topsoil, mulch, or bark, and
7	the disposal area and reserve disposal area are situated outside the relevant exclusion areas and setbacks in Table 9: Exclusion areas and setback distances for on-site domestic wastewater systems, and
8	for septic tank treatment systems, a filter that retains solids greater than 3.5 millimetres in size is fitted on the outlet, and
9	the following reserve disposal areas are available at all times:
	a) 100 percent of the existing effluent disposal area where the wastewater has received primary treatment or is only comprised of greywater, or
	b) 30 percent of the existing effluent disposal area where the wastewater has received secondary treatment or tertiary treatment, and
10	the on-site system is maintained so that it operates effectively at all times and maintenance is undertaken in accordance with the manufacturer's specifications, and
11	the discharge does not contaminate any groundwater water supply or surface water, and
12	there is no surface runoff or ponding of wastewater, and
13	there is no offensive or objectionable odour beyond the property boundary.

We envision that there will be no issue meeting the Permitted Activity Status requirements as outlined above.

6 STORMWATER MANAGEMENT

6.1 ASSESSMENT CRITERIA

The site lies within the Far North District. The stormwater assessment has been completed in accordance with the recommendations and requirements contained within the Far North District Engineering Standards and the Far North District Council District Plan.

As below, the site resides in a General Coastal Zone.

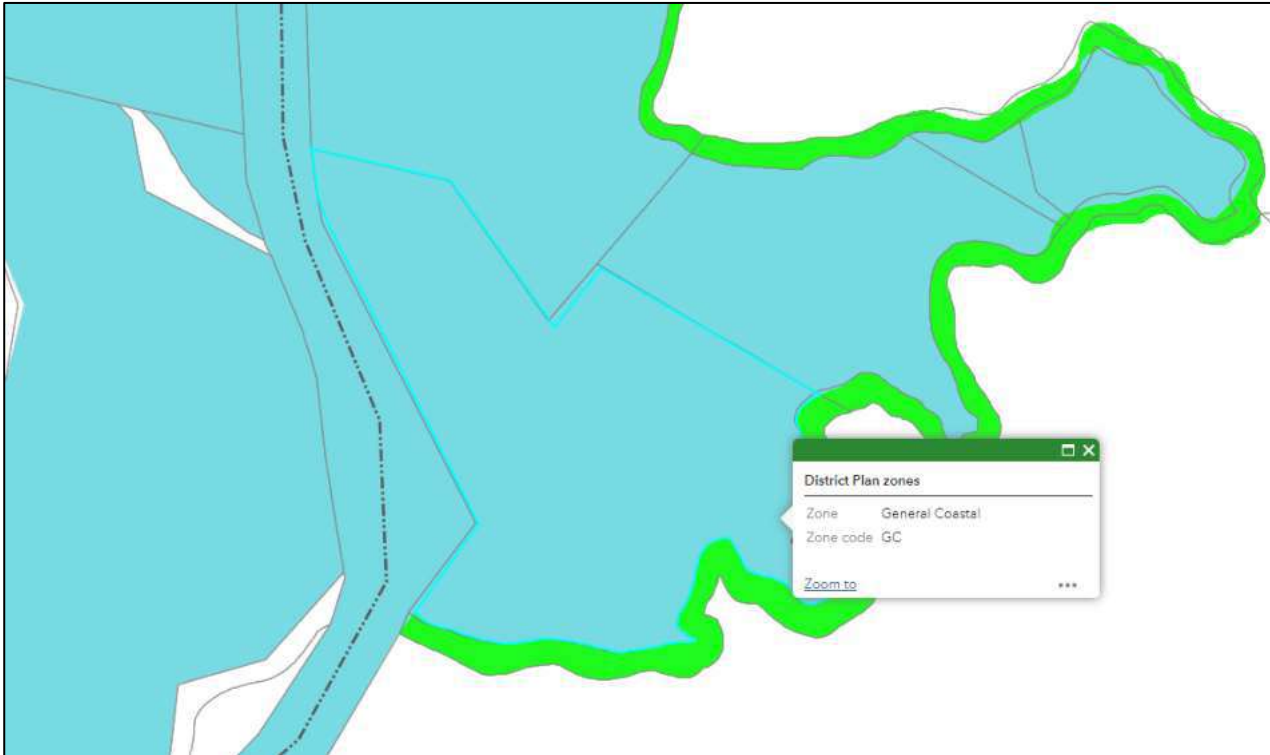


Figure 7: Snip of FNDC Maps Showing Site in General Coastal Zone.

The following Stormwater Management Rules Apply:

Permitted Activity: 10.6.5.1.6 STORMWATER MANAGEMENT – The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 10%.

Controlled Activity: 10.6.5.2.3 STORMWATER MANAGEMENT – The maximum proportion or amount of the gross site area covered by buildings and other impermeable surfaces shall be 15% or 4,000m², whichever is the lesser.

To comply with the parameters of the Permitted Activity Rule (10.6.5.1.6), Lots 1 – 3 must not exceed an impermeable area of 10%. The maximum permitted impermeable areas for Lots 1, 2 and 3 are 8,532m², 5,545.8m² and 7,136.9m² respectively.

A site-specific attenuation report in accordance with the Far North District Council Engineering Standards will be required for any lot that does not meet the criteria of Permitted Activity Rule (10.6.5.1.6).

Given the large impermeable area allowances for Lots 1 – 3, we expect that any existing and future proposed residential development would comply with Permitted Activity Rule (10.6.5.1.6). As such, we do not envision that a site-specific attenuation report will be required for the proposed lots.

To appropriately mitigate stormwater runoff from the existing and future proposed impermeable areas, we recommend utilising Low Impact Design Methods as a means of stormwater management. Design guidance should be taken from 'The Countryside Living Toolbox' design document, and where necessary, 'Technical Publication 10, Stormwater Management Devices – Design Guidelines Manual' Auckland Regional Council (2003).

Stormwater management recommendations for Lots 1 - 3 are provided below.

6.2 PRIMARY STORMWATER

6.2.1 Stormwater Runoff from Roof Areas

Lots 1 & 2

Stormwater runoff from the roof of the future buildings must be captured by a proprietary gutter system and conveyed to potable water tanks.

Discharge and overflow from the potable water tanks should be directed to a dispersal device within each lot unless the discharge is directed to an open channel, where an appropriate riprap outlet is required for erosion control. The dispersal device or discharge point should be positioned on/in stable ground downslope of any buildings and effluent fields, with setback distances as per the relevant standards.

The disposal location should not be located on unstable slopes.

Lot 3

Review of as-built plans provided by the client indicates that an appropriate overflow / disposal outlet services this lot.

Given the above, we recommend that the existing stormwater system continue to service proposed Lot 3.

6.2.2 Stormwater Runoff from Hardstand Areas

It is recommended to shape future proposed hardstand areas to shed runoff to stormwater catchpits for runoff conveyance to the lot's stormwater dispersal device / discharge outlet.

Long driveways or Right of Ways should be shaped to shed runoff to swales directed to a safe outlet location without causing erosion. These should be sized to manage and provide capacity for secondary flows and mitigate flow velocity where appropriate.

Due to water quality concerns, runoff resulting from hardstand areas should not be allowed to drain to the potable water tanks.

Uncontrolled stormwater flows must not be allowed to run onto or over site slopes, or to saturate the ground particularly near the northern slope, so as to adversely affect slope stability or foundation conditions. Under no circumstances should concentrated overflows from any source discharge into or onto the ground in an uncontrolled fashion.

6.3 SECONDARY STORMWATER

Where required, overland flows and similar runoff from higher ground should be intercepted by means of shallow surface drains and/or small bunds near structures to protect these from both saturation and erosion, as well as any localised slope instability. Water collected in interceptor drains should be diverted away from building sites to stable disposal points.

6.4 DISTRICT PLAN ASSESSMENT

This section has been prepared to demonstrate the likely effects of the activity on stormwater runoff and the means of mitigating runoff.

In assessing an application under this provision, the Council will exercise discretion to review the following matters below, (a) through (r). In respect of matters (a) through (r), we provide the following comments:

13.10.4 – Stormwater Disposal

<p><i>(a) Whether the application complies with any regional rules relating to any water or discharge permits required under the Act, and with any resource consent issued to the District Council in relation to any urban drainage area stormwater management plan or similar plan.</i></p>	<p>No discharge permits are required. No resource consent issued documents stipulating specific requirements are known for the subject site or are anticipated to exist.</p>
<p><i>(b) Whether the application complies with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009 (to be used in conjunction with NZS 4404:2004).</i></p>	<p>The application is deemed compliant with the provisions of the Council's "Engineering Standards and Guidelines" (2004) - Revised March 2009</p>
<p><i>(c) Whether the application complies with the Far North District Council Strategic Plan - Drainage.</i></p>	<p>The application is deemed compliant with the Far North District Council Strategic Plan - Drainage</p>
<p><i>(d) The degree to which Low Impact Design principles have been used to reduce site impermeability and to retain natural permeable areas.</i></p>	<p>Stormwater management should be provided for the subject lot by utilising Low Impact Design Methods. Guidance for design should be taken from 'The Countryside Living Toolbox' design document, and where necessary, "Technical Publication 10, Stormwater Management Devices – Design Guidelines Manual" Auckland Regional Council (2003). All roof runoff will be collected by rainwater tanks for conveyance to a safe outlet point. Hardstand areas are to be shaped to shed runoff to catchpits for runoff conveyance to the lot's stormwater device/discharge outlet, or to swales directed to a safe outlet location without causing erosion.</p>
<p><i>(e) The adequacy of the proposed means of disposing of collected stormwater from the roof of all potential or existing buildings and from all impervious surfaces.</i></p>	<p>As above. Runoff from new roof areas will be collected, directed to rainwater tanks and discharged in a controlled manner to a discharge outlet, reducing scour and erosion. Hardstand areas are to be shaped to shed runoff to catchpits for runoff conveyance to the lot's stormwater device/discharge outlet, or to swales directed to a safe outlet location without causing erosion.</p>

<p><i>(f) The adequacy of any proposed means for screening out litter, the capture of chemical spillages, the containment of contamination from roads and paved areas, and of siltation.</i></p>	<p>Runoff from roof areas is free of litter, chemical spillages, or contaminants from roads. Hardstand areas are to be shaped to shed runoff to catchpits for runoff conveyance to the lot's stormwater device/discharge outlet, or to swales directed to a safe outlet location without causing erosion. Catchpits are to have a suitable sump to serve as a pre-treatment device prior to discharging to the discharge point. Grassed swales act as a bio-filter strip to filter out entrained pollutants.</p>
<p><i>(g) The practicality of retaining open natural waterway systems for stormwater disposal in preference to piped or canal systems and adverse effects on existing waterways.</i></p>	<p>No alteration to waterways is proposed.</p>
<p><i>(h) Whether there is sufficient capacity available in the Council's outfall stormwater system to cater for increased run-off from the proposed allotments.</i></p>	<p>Not applicable.</p>
<p><i>(i) Where an existing outfall is not capable of accepting increased run-off, the adequacy of proposals and solutions for disposing of run-off.</i></p>	<p>Not applicable.</p>
<p><i>(j) The necessity to provide on-site retention basins to contain surface run-off where the capacity of the outfall is incapable of accepting flows, and where the outfall has limited capacity, any need to restrict the rate of discharge from the subdivision to the same rate of discharge that existed on the land before the subdivision takes place.</i></p>	<p>Not applicable.</p>
<p><i>(k) Any adverse effects of the proposed subdivision on drainage to, or from, adjoining properties and mitigation measures proposed to control any adverse effects.</i></p>	<p>Outlet locations are to be determined during detailed design, and are to be located such that there are no adverse effects on adjacent properties.</p>
<p><i>(l) In accordance with sustainable management practices, the importance of disposing of stormwater by way of gravity pipe lines. However, where topography dictates that this is not possible, the adequacy of proposed pumping stations put forward as a satisfactory alternative.</i></p>	<p>Not applicable.</p>
<p><i>(m) The extent to which it is proposed to fill contrary to the natural fall of the country to obtain gravity outfall; the practicality of obtaining easements through adjoining owners' land to other outfall systems; and whether filling or pumping may constitute a satisfactory alternative.</i></p>	<p>Not applicable.</p>
<p><i>(n) For stormwater pipes and open waterway systems, the provision of appropriate easements in favour of either the registered user or in the case of the Council, easements in gross, to be shown on the survey plan for the subdivision, including private connections passing</i></p>	<p>Not applicable.</p>

over other land protected by easements in favour of the user.	
(o) Where an easement is defined as a line, being the centre line of a pipe already laid, the effect of any alteration of its size and the need to create a new easement.	Not applicable.
(p) For any stormwater outfall pipeline through a reserve, the prior consent of the Council, and the need for an appropriate easement.	Not applicable.
(q) The need for and extent of any financial contributions to achieve the above matters.	Not applicable.
(r) The need for a local purpose reserve to be set aside and vested in the Council as a site for any public utility required to be provided.	Not applicable.

7 ACCESS AND VEHICLE CROSSING

7.1 GENERAL

A basic access and vehicle crossing assessment for Lots 1 & 2 has been completed with recommendations provided in this section.

Lots 1 & 2 are proposed to use new access points directly off the newly formed Right of Way.

New vehicle crossings and accessways are to be designed and constructed in accordance with Council’s Engineering Standards and Guidelines.

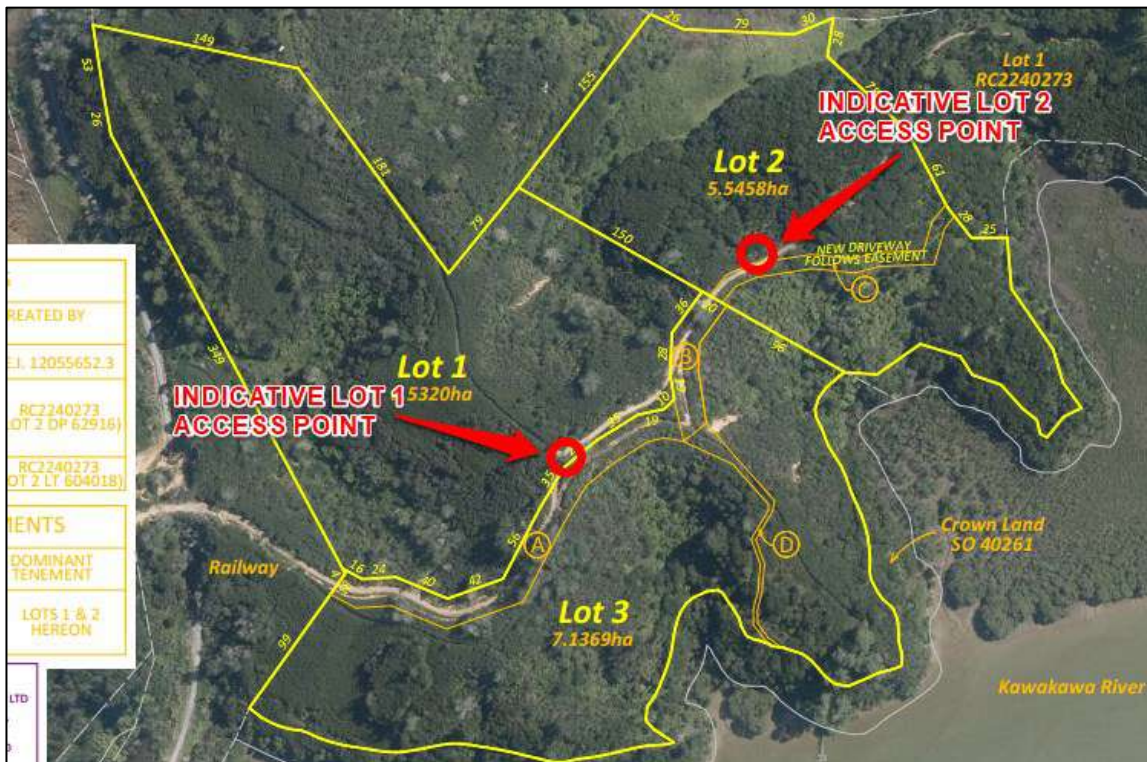


Figure 8: Proposed Vehicle Access Locations.

7.2 VEHICLE CROSSINGS

New unsealed access crossings from the Right of Way must provide adequate access to service the lots. It is recommended to construct this with dimensions complying with the Far North District Council Engineering Standards (May 2023) Sheet 21 – Type 1A.

The crossings shall not obstruct any drainage facilities within the berm. Where the drain is shallow and only carries low rain flow, the crossing must pass through the drain. Where the drain is an unstable shape or carries significant rain flow the drain shall be piped under the crossing. Pipes and end treatments shall be sized appropriately for the catchment intercepted but shall be a minimum 300mm ϕ .

7.3 VEHICLE ACCESS

The Far North District Plan Section 15.1.6C.1.5 notes that *“All bends and corners on the private accessway are to be constructed to allow for the passage of a Heavy Rigid Vehicle” and “Runoff from impermeable surfaces shall, wherever practicable, be directed to grass swales and/or shall be managed in such a way as will reduce the volume and rate of stormwater runoff and contaminant loads.”*.

If long accessways are proposed, then passing bays would be required at a maximum spacing of 100m, subject to adequate visibility.

7.4 SIGHT DISTANCES

The existing Right of Way has a general operating speed of 30km/hr in proximity to the subject site. The Far North District Council Engineering Standards (May 2023) Sheet 4 notes that, the minimum required sight distance is 45m from access roads with low volume traffic.



Figure 9: Site Photo Showing 30km/hr Speed Limit.

In compliance with the FNDC Engineering Standards' sight distance requirements, the proposed access point to service Lot 1 allows for >45m of sight distance to the southwest and to the northeast.



Figure 10: Plan View Indicatively Showing Lot 1's Access Point & Sight Distances.

In compliance with the FNDC Engineering Standards' sight distance requirements, the proposed access point to service Lot 2 allows for >45m of sight distance to the southwest and to the northeast.



Figure 11: Plan View Indicatively Showing Lot 2's Access Point & Sight Distances.

8 POTABLE WATER

All future proposed residential units will require non-reticulated potable water via rainwater tanks in accordance with the estimated usage. A typical 4-bedroom dwelling will require 2 x 25,000L rainwater tanks.

Provision should be made by future homeowners for top-up of the rainwater tanks via water tankers in periods of low rainfall.

9 FIREFIGHTING SUPPLY

The New Zealand Fire Service Firefighting Water Supplies Code of Practice (SNZPAS 4509:2008) states that buildings require a minimum on-site firefighting water supply of 45m³ where buildings are greater than 90m away from an open utilisable water body and are serviced by a non-reticulated potable water supply.

The firefighting source should be provided for by on-site water tanks, installed/positioned in compliance with Appendix B of SNZPAS4509. The firefighting supply tank(s) must be installed separately to the potable rainwater tanks and must remain full. These tanks must be accessible to fire trucks in the scenario of a fire emergency.

Given the above, it is recommended that all proposed lots / future proposed dwellings provide 2 x 25,000L tanks for fire water storage.

The above requirement can be waived if a different agreement is specifically made with the New Zealand Fire Service for the subdivision.

10 LIMITATIONS

We anticipate that this report is to be submitted to Council in support of a Resource Consent application.

This report has been commissioned solely for the benefit of our client, **Sielia Trust**, in relation to the project as described herein, and to the limits of our engagement, with the exception that the local Territorial Authority may rely on it to the extent of its appropriateness, conditions, and limitations, when issuing the subject consent.

Any variations from the development proposals as described herein as forming the basis of our appraisal should be referred back to us for further evaluation. Copyright of Intellectual Property remains with Wilton Joubert Limited, and this report may NOT be used by any other entity, or for any other proposals, without our written consent. Therefore, no liability is accepted by this firm or any of its directors, servants, or agents, in respect of any other civil aspects of this site, nor for its use by any other person or entity, and any other person or entity who relies upon any information contained herein does so entirely at their own risk. Where other parties may wish to rely on it, whether for the same or different proposals, this permission may be extended, subject to our satisfactory review of their interpretation of the report.

Although this report may be submitted to a local authority in connection with an application for a consent, permission, approval, or pursuant to any other requirement of law, this disclaimer shall still apply and require all other parties to use due diligence where necessary and does not remove the necessity for the normal inspection of site conditions and the design of foundations as would be made under all normal circumstances.

Thank you for the opportunity to provide our service on this project, and if we can be of further assistance, please do not hesitate to contact us.

Yours faithfully,

WILTON JOUBERT LIMITED

Enclosures:

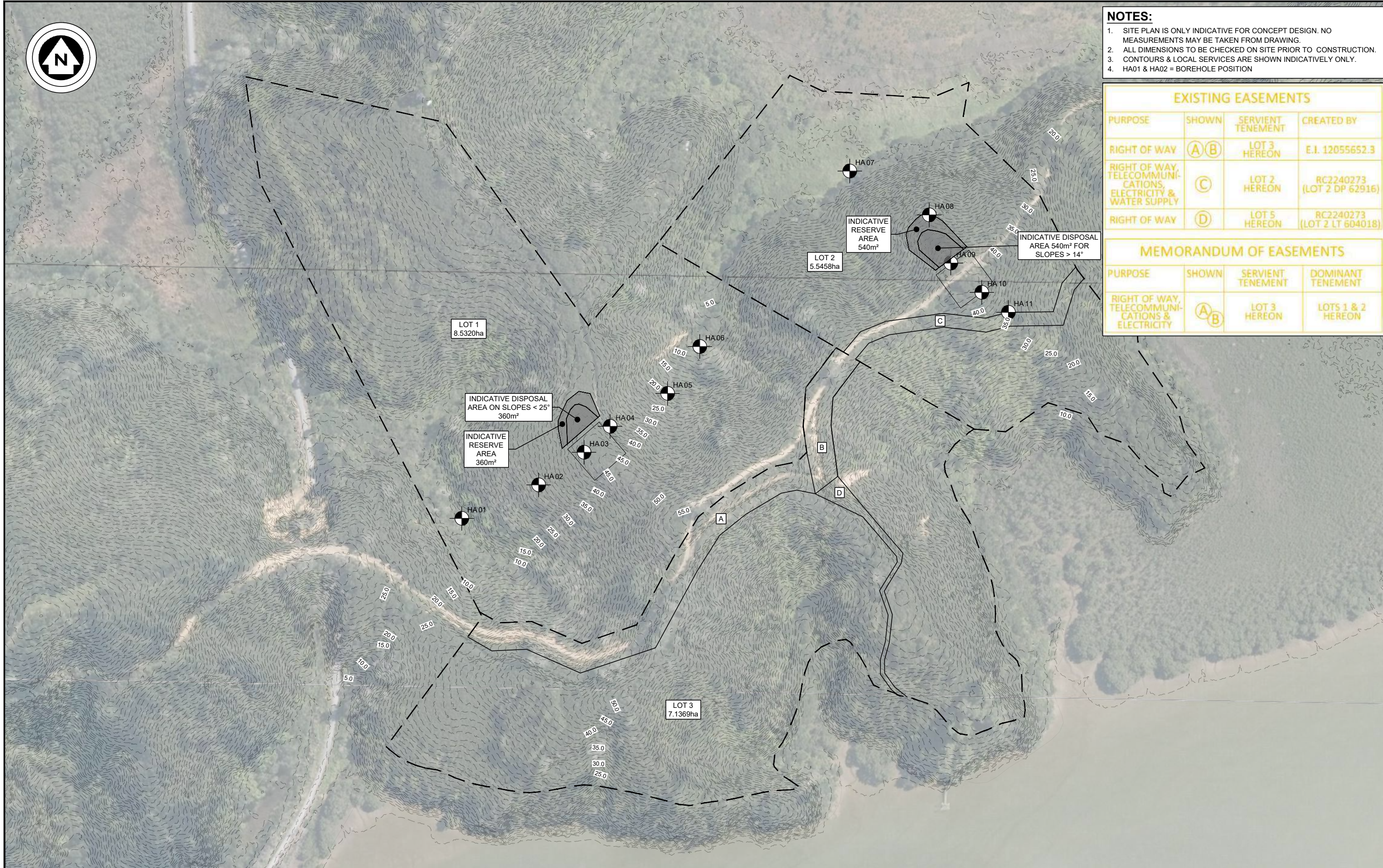
- Site Plan – C001 (1 sheet)
- Tank Detail – C200 (1 sheet)
- Hand Auger Borehole Records (11 sheets)



- NOTES:**
1. SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
 2. ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION.
 3. CONTOURS & LOCAL SERVICES ARE SHOWN INDICATIVELY ONLY.
 4. HA01 & HA02 = BOREHOLE POSITION

EXISTING EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY	(A)(B)	LOT 3 HEREON	E.I. 12055652.3
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(C)	LOT 2 HEREON	RC2240273 (LOT 2 DP 62916)
RIGHT OF WAY	(D)	LOT 5 HEREON	RC2240273 (LOT 2 LT 604018)

MEMORANDUM OF EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS & ELECTRICITY	(A)(B)	LOT 3 HEREON	LOTS 1 & 2 HEREON



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ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
A	JUL '24	GMB	CIVIL SITE SUITABILITY REPORT
B	SEP '24	GMB	CIVIL SITE SUITABILITY REPORT REV B
C	SEP '24	GMB	CIVIL SITE SUITABILITY REPORT REV C

DESIGNED BY: GMB
DRAWN BY: GMB
CHECKED BY: BGS
SURVEYED BY: N/A

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RESOURCE CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEERS APPROVAL

DRAWING TITLE: **SITE PLAN**

PROJECT DESCRIPTION: **CIVIL SITE SUITABILITY REPORT**

PROJECT TITLE: **PROPOSED SUBDIVISION OF ALLOT 271 PSH OF KAWAKA & LOT 1 LT 604018**

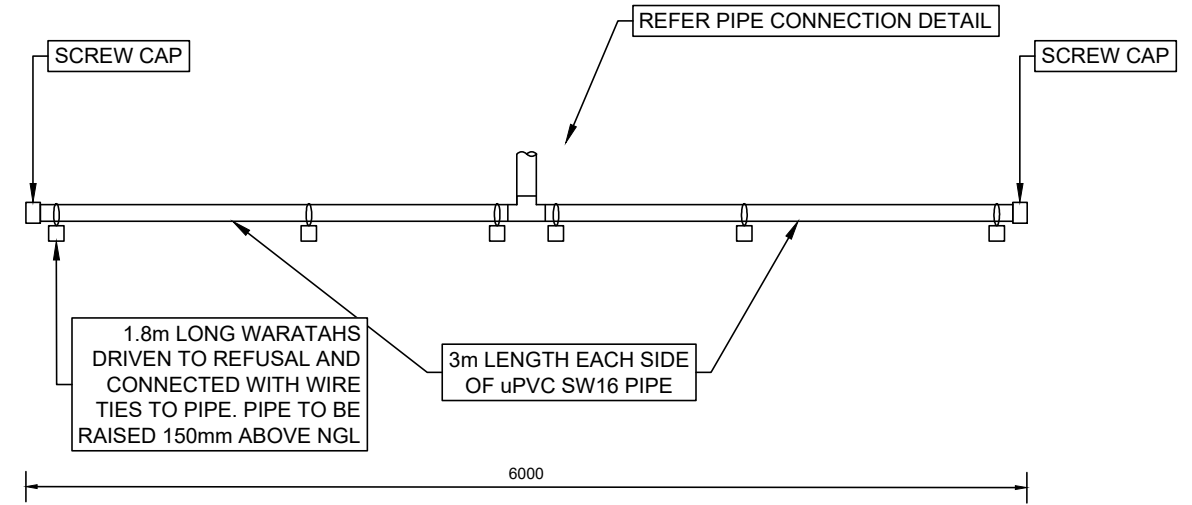
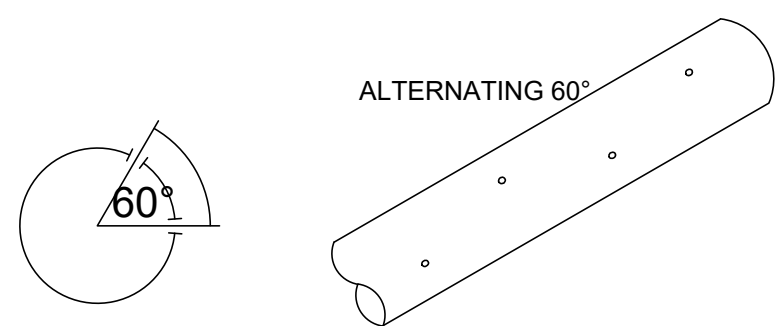
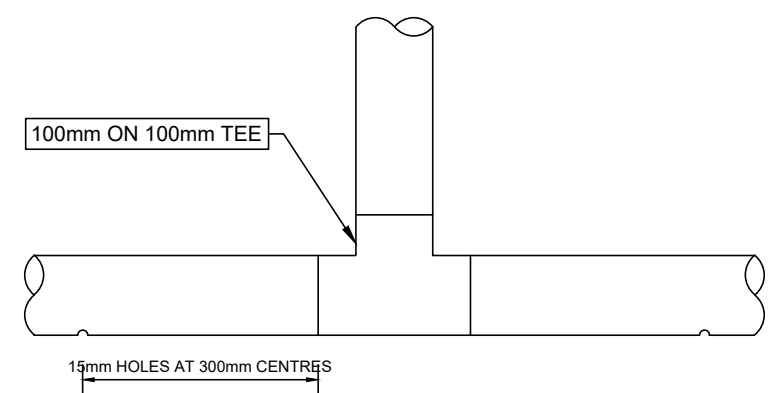
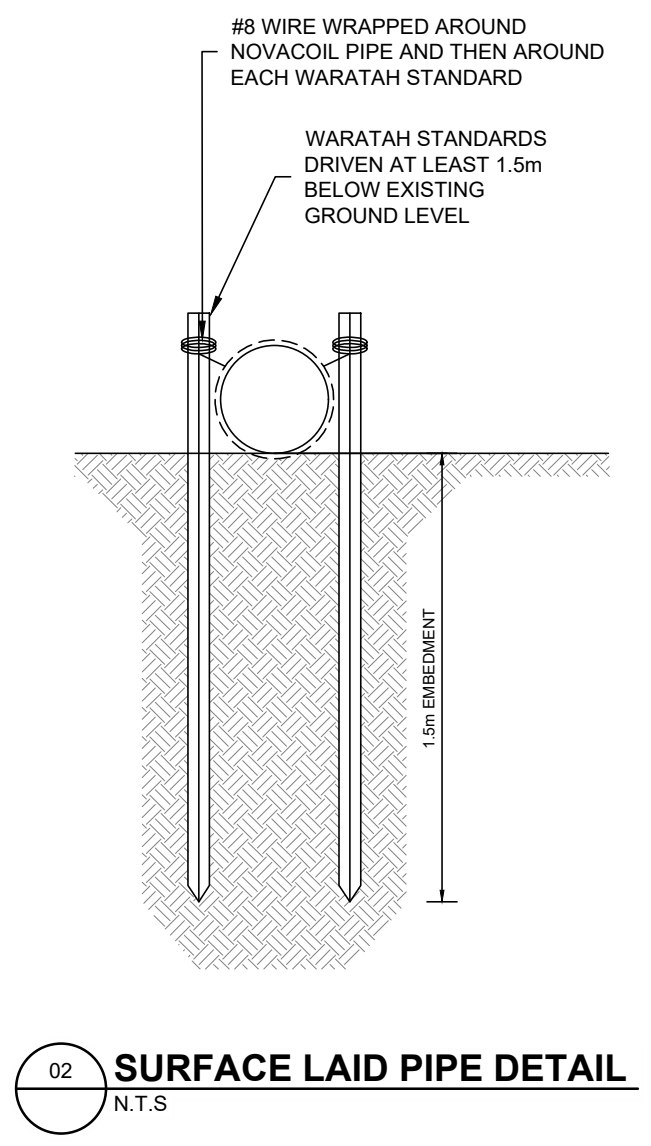
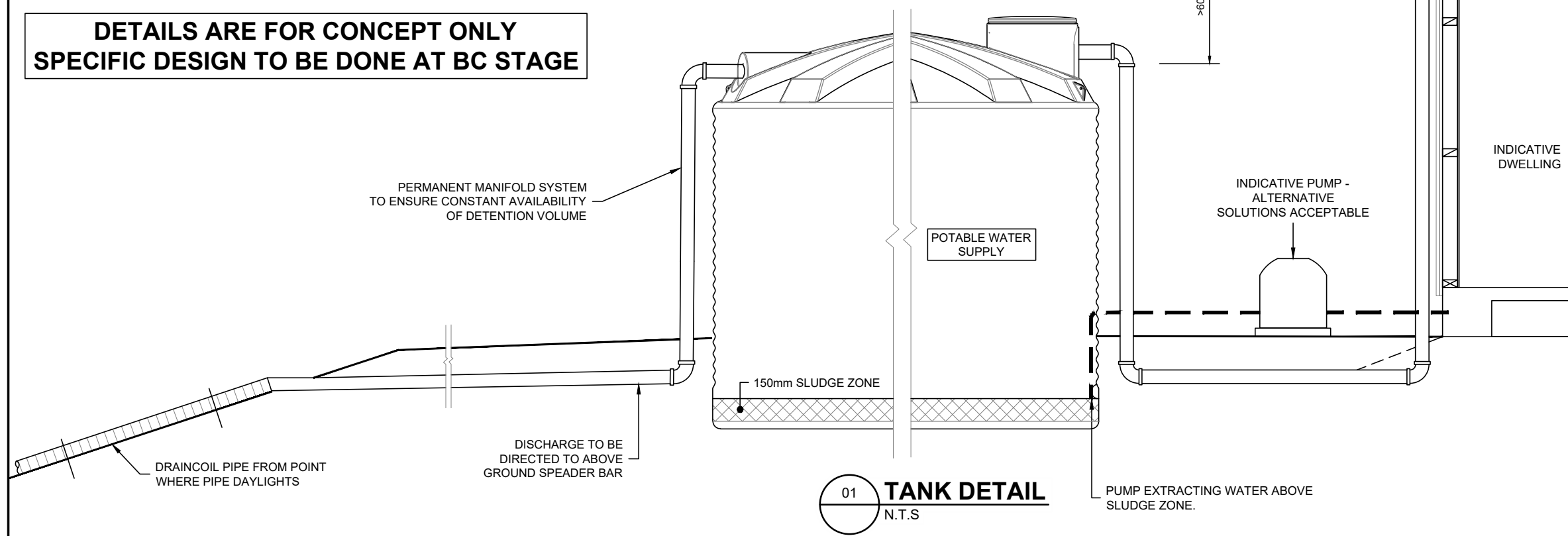
154 TE RAUPO ROAD NORTHLAND

ORIGINAL DRAWING SIZE: A3	OFFICE: OREWA
DRAWING SCALE: 1:2500	CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: 135318-C001	ISSUE: C
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NOTES:

1. NOT TO SCALE. DRAWN INDICATIVELY ONLY.
2. ALL LEVELS & DIMENSIONS TO BE CONFIRMED ON SITE & ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. TANK TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS & RELEVANT COUNCIL STANDARDS.
4. REGULAR INSPECTION & CLEANING IS REQUIRED TO ENSURE THE EFFECTIVE OPERATION OF THE SYSTEM.
5. MINIMUM SLUDGE ZONE OF 150mm TO BE KEPT.

**DETAILS ARE FOR CONCEPT ONLY
SPECIFIC DESIGN TO BE DONE AT BC STAGE**



03 DISPERSAL BAR DETAIL
N.T.S.

ISSUE / REVISION				
No.	DATE	BY	DESCRIPTION	
A	JUL '24	GMB	CIVIL SITE SUITABILITY REPORT	
B	SEP '24	GMB	CIVIL SITE SUITABILITY REPORT REV B	
C	SEP '24	GMB	CIVIL SITE SUITABILITY REPORT REV C	

DESIGNED BY:	GMB
DRAWN BY:	GMB
CHECKED BY:	BGS
SURVEYED BY:	N/A

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RESOURCE CONSENT
DESIGN / DRAWING SUBJECT TO ENGINEERS APPROVAL

DRAWING TITLE:
STORMWATER DETAILS

PROJECT DESCRIPTION:
CIVIL SITE SUITABILITY REPORT

PROJECT TITLE:
**PROPOSED SUBDIVISION OF
ALLOT 271 PSH OFKAWAKA
& LOT 1 LT 604018
154 TE RAUPO ROAD
NORTHLAND**

ORIGINAL DRAWING SIZE:	OFFICE:
A3	OREWA
DRAWING SCALE:	CO-ORDINATE SYSTEM:
N.T.S	NOT COORDINATED
DRAWING NUMBER:	ISSUE:
135318-C201	C
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HAND AUGER : HA01

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024 NORTHING: GRID:

DIAMETER: 50mm EASTING:

SV DIAL: 1994 ELEVATION: Ground

FACTOR: 1.41 DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	
Top soil	TOPSOIL								
Waipapa Group	NATURAL: Slightly Clayey SILT, orangey brown mottled yellowish white, very stiff, moist, low plasticity		0.2	Groundwater Not Encountered					
			0.4		110	28	3.9		
		0.6							
		0.8							
	Gravelly SILT (COMPLETELY WEATHERED ROCK), yellowish brown mottled white, very stiff to hard, moist, no plasticity, friable, frequent manganese staining		1.0		197+	-	-		
			1.2						
	EOH: 1.20m - Too Hard To Auger		1.2		UTP	-	-	20+	
			1.4						
			1.6						
			1.8						
			2.0						
			2.2						
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						
			3.6						
			3.8						
			4.0						
			4.2						
			4.4						

REMARKS
End of borehole @ 1.20m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM ▼ Standing groundwater level
CHECKED BY: DXS ▽ GW while drilling



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HAND AUGER : HA02

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: 1994

ELEVATION: Ground

FACTOR: 1.41

DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / mm)	
Top soil	TOPSOIL, dark brown, moist		0.0 - 0.2						
Waipapa Group	NATURAL: Clayey SILT, yellow, very stiff, moist, low plasticity		0.2 - 1.0	Groundwater Not Encountered					
			0.4		180	51	3.5		
			0.6						
			0.8		158	54	2.9		
	1.0m: Becoming streaked red		1.0						
			1.2						
			1.4		197+	-	-		
	Slightly Clayey SILT, orange/white/yellow, very stiff, moist, low plasticity, slightly friable		1.4 - 2.8						
			1.6		197+	-	-		
			1.8						
		2.0	197+	-	-				
		2.2							
		2.4	197+	-	-				
		2.6							
	SILT with trace clay (COMPLETELY WEATHERED ROCK), orange/white/yellow, very stiff to hard, dry to moist, no to low plasticity, friable, occasional manganese staining		2.8 - 3.2						
			2.8	197+	-	-			
		3.0							
		3.2	UTP	-	-				
		3.4							
		3.6							
		3.8							
		4.0							
		4.2							
		4.4							
	EOH: 3.20m - Too Hard To Auger		3.2 - 5.0						

REMARKS

End of borehole @ 3.20m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM

▼ Standing groundwater level

CHECKED BY: DXS

▽ GW while drilling



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HAND AUGER : HA03

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: 772

ELEVATION: Ground

FACTOR: 1.6

DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	
Topsol	TOPSOIL, dark brown, moist		0.2	Groundwater Not Encountered					
Waipapa Group	NATURAL: Clayey SILT, yellowish brown, very stiff, moist, moderate plasticity, occasional greyish light brown streaks 0.6m: Occasional light orange streaks		0.4		160	80	2.0		
	1.0m: Becoming yellowish brown with grey streaks, low to moderate plasticity		0.8		224+	-	-		
	Slightly Clayey SILT, yellowish brown with grey mottles, very stiff, moist, low plasticity		1.0		224+	-	-		
	SILT with minor clay (COMPLETELY WEATHERED ROCK), yellowish brown with grey mottles, very stiff, moist, no to low plasticity, slightly friable 1.6m: 100mm lens of Clayey SILT, yellowish brown with light orange streaks		1.2		224+	-	-		
	SILT with trace clay (COMPLETELY WEATHERED ROCK), yellowish brown, very stiff to hard, dry to moist, no plasticity, friable 1.9m: Becoming mottled grey		1.4		224+	-	-		
			1.6		224+	-	-		
			1.8		UTP	-	-		
			2.0		UTP	-	-	17	
			2.2					11	
			2.4				12		
			2.6				12		
			2.8				13		
			3.0				17		
			3.2				20		
			3.4				20+		
			3.6						
			3.8						
			4.0						
			4.2						
			4.4						

REMARKS
End of borehole @ 2.10m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: SJP
CHECKED BY: DXS

▼ Standing groundwater level
▽ GW while drilling



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HAND AUGER : HA04

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024 NORTHING: GRID:

DIAMETER: 50mm EASTING:

SV DIAL: 772 ELEVATION: Ground

FACTOR: 1.6 DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS			
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)				
Topsol	TOPSOIL, dark brown, moist		0.0 - 0.2									
Waipapa Group	NATURAL: Clayey SILT, yellowish brown, very stiff, moist, moderate plasticity 0.9m: Occasional light orange streaks 1.4m: Becoming orangey brown & yellowish brown		0.2 - 0.4	Groundwater Not Encountered								
			0.4 - 0.6							205	74	2.8
			0.6 - 0.8									
			0.8 - 1.0							224+	-	-
			1.0 - 1.2									
			1.2 - 1.4							224+	-	-
			1.4 - 1.6									
			1.6 - 1.8							224+	-	-
			1.8 - 2.0									
			2.0 - 2.2							224+	-	-
	SILT with trace clay (COMPLETELY WEATHERED ROCK), yellowish grey & dark orangey brown, very stiff to hard, moist, no to plasticity, friable		2.2 - 2.4									
			2.4 - 2.6							UTP	-	-
			2.6 - 2.8									
			2.8 - 3.0							UTP	-	-
			3.0 - 3.2							UTP	-	-
			3.2 - 3.4									
			3.4 - 3.6									
			3.6 - 3.8									
			3.8 - 4.0									
			4.0 - 4.2									
	EOH: 2.90m - Too Hard To Auger		4.2 - 4.4									

REMARKS

End of borehole @ 2.90m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: SJP

▼ Standing groundwater level

CHECKED BY: DXS

▽ GW while drilling



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HAND AUGER : HA05

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024 NORTHING: GRID:

DIAMETER: 50mm EASTING:

SV DIAL: 1994 ELEVATION: Ground

FACTOR: 1.41 DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / mm)	
Top soil	TOPSOIL, dark brown, moist								
Waipapa Group	NATURAL: Clayey SILT, yellow, very stiff, moist, low to moderate plasticity		0.2	Groundwater Not Encountered					
			0.4		127	20	6.4		
			0.6						
			0.8		144	37	3.9		
			1.0						
			1.2		166	59	2.8		
			1.4						
			1.6		197+	-	-		
			1.8						
			2.0		197+	-	-		
			2.2						
			2.4		197+	-	-		
		2.6							
		2.8	197+	-	-				
		3.0							
		3.2	UTP	-	-				
		3.4							
		3.6	UTP	-	-				
		3.8							
		4.0							
		4.2							
		4.4							
	EOH: 3.60m - Too Hard To Auger								

1.2m: Becoming orangey yellow

REMARKS
End of borehole @ 3.60m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM

▼ Standing groundwater level

CHECKED BY: DXS

▽ GW while drilling



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HAND AUGER : HA06

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: DR4802

ELEVATION: Ground

FACTOR: 1.55

DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOLD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	
Topsoil	TOPSOIL, brown & dark brown, moist		0.2	23/07/2024 ▼ ▽					
	NATURAL: Clayey SILT, orangey brown & grey, stiff, moist, moderate plasticity		0.4		71	31	2.3		
Waipapa Group	Gravelly SILT (COMPLETELY WEATHERED ROCK), orangey brown & grey, very stiff to hard, moist, no plasticity	0.6							
		0.8	96		40	2.4			
		1.0							
		1.2	UTP		-	-			
EOH: 1.50m - Too Hard To Auger		1.4							
		1.6	UTP		-	-	16		
		1.8							
		2.0							
		2.2							
		2.4							
		2.6							
		2.8							
		3.0							
		3.2							
		3.4							
		3.6							
3.8									
4.0									
4.2									
4.4									

REMARKS
 End of borehole @ 1.50m (Target Depth: 5.00m)
 Groundwater encountered @ 0.80m during drilling. Standing groundwater @ 0.50m.

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: NPN ▼ Standing groundwater level
 CHECKED BY: DXS ▽ GW while drilling

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HAND AUGER : HA07

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024 NORTHING: GRID:

DIAMETER: 50mm EASTING:

SV DIAL: DR4802 ELEVATION: Ground

FACTOR: 1.55 DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	
Topsoil	TOPSOIL, brown, moist	TS	0.0 - 0.2						
Waipapa Group	NATURAL: Clayey SILT, light greyish brown & orange, stiff, moist, moderate plasticity	[Silt Pattern]	0.2 - 0.6		71	25	2.8		
			0.6 - 1.0	▼	93	37	2.5		
	EOH: 1.30m - Too Hard To Auger		1.0 - 1.3		UTP	-	-		
			1.3 - 1.4		UTP	-	-	20+	
			1.4 - 1.6						
			1.6 - 1.8						
			1.8 - 2.0						
			2.0 - 2.2						
			2.2 - 2.4						
			2.4 - 2.6						
			2.6 - 2.8						
			2.8 - 3.0						
			3.0 - 3.2						
			3.2 - 3.4						
			3.4 - 3.6						
			3.6 - 3.8						
			3.8 - 4.0						
			4.0 - 4.2						
			4.2 - 4.4						

REMARKS
 End of borehole @ 1.30m (Target Depth: 5.00m)
 Groundwater encountered @ 0.90m during drilling. Standing groundwater @ 0.60m.

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: NPN
 CHECKED BY: DXS

▼ Standing groundwater level
 ▽ GW while drilling



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HAND AUGER : HA08

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: DR4802

ELEVATION: Ground

FACTOR: 1.55

DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / mm)	
Topsol	TOPSOIL, brown, moist		0.0 - 0.2						
Waipapa Group	NATURAL: Clayey SILT, yellowish orange with brown streaks, very stiff, dry to moist, low to moderate plasticity		0.2 - 1.6	Groundwater Not Encountered					
			0.4		√217+	-	-		
			0.6						
			0.8		√186	62	3.0		
			1.0						
			1.2		√170	56	3.0		
			1.4						
			1.6		√217+	-	-		
	Slightly Clayey SILT, brown/orange/yellow, very stiff, moist, low to moderate plasticity		1.6 - 1.8						
	SILT with minor clay (COMPLETELY WEATHERED ROCK), light grey with white & orange streaks, very stiff, moist, no to low plasticity, slightly friable		1.8 - 2.8						
		2.0	√217+	-	-				
		2.2							
		2.4	√UTP	-	-				
		2.6							
		2.8	√UTP	-	-				
		3.0							
		3.2							
		3.4							
		3.6							
		3.8							
		4.0							
		4.2							
		4.4							
	EOH: 2.80m - Too Hard To Auger		2.8 - 4.4						

REMARKS
End of borehole @ 2.80m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: NPN
CHECKED BY: DXS

▼ Standing groundwater level
▽ GW while drilling



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HAND AUGER : HA09

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: 1994

ELEVATION: Ground

FACTOR: 1.41

DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS			
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)				
Topsoil	TOPSOIL, dark brown, moist	TS	0.0 - 0.1									
Waipapa Group	NATURAL: Clayey SILT, yellowish brown, very stiff, moist, low plasticity	[SILT Pattern]	0.1 - 1.0	Groundwater Not Encountered								
			0.2							197+	-	-
			0.4									
			0.6							197+	-	-
			0.8									
			1.0							197+	-	-
			1.2									
			1.4							197+	-	-
			1.6									
			1.8							197+	-	-
	Slightly Clayey SILT, pink/orange/yellow/white, very stiff, moist, no to low plasticity	[SILT Pattern]	1.0 - 2.0									
			2.0						197+	-	-	
			2.2									
			2.4						197+	-	-	
			2.6									
			2.8						197+	-	-	
			3.0									
			3.2						197+	-	-	
			3.4									
			3.6						197+	-	-	
	EOH: 4.00m - Too Hard To Auger	[ROCK Pattern]	4.0 - 4.4									
			4.0						UTP	-	-	20+
			4.2									
			4.4									

REMARKS
End of borehole @ 4.00m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: JEM
CHECKED BY: DXS

▼ Standing groundwater level
▽ GW while drilling



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HAND AUGER : HA10

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024

NORTHING:

GRID:

DIAMETER: 50mm

EASTING:

SV DIAL: 772

ELEVATION: Ground

FACTOR: 1.6

DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / 100mm)	
Topsol	TOPSOIL, dark brown, moist		0.0 - 0.2						
Waipapa Group	NATURAL: Clayey SILT, yellowish brown with greyish light brown streaks, very stiff, moist, moderate plasticity 0.8m: Occasional light orange streaks 1.1m: Becoming yellowish brown & pinkish orange with white streaks 1.4m: Becoming pinkish orange with yellowish brown streaks & white mottles, low to moderate plasticity		0.2 - 0.4	Groundwater Not Encountered	192	48	4.0		
			0.4 - 0.6						
			0.6 - 0.8						
			0.8 - 1.0		224+	-	-		
			1.0 - 1.2						
			1.2 - 1.4		224+	-	-		
			1.4 - 1.6						
			1.6 - 1.8		224+	-	-		
			1.8 - 2.0						
			2.0 - 2.2		224+	-	-		
	SILT with minor clay (COMPLETELY WEATHERED ROCK), pinkish orange with yellowish brown & white mottles, very stiff to hard, no to low plasticity, slightly friable		2.2 - 2.4						
			2.4 - 2.6						
			2.6 - 2.8						
			2.8 - 3.0	UTP	-	-			
	EOH: 3.10m - Too Hard To Auger		3.0 - 3.2	UTP	-	-	11		
			3.2 - 3.4				10		
			3.4 - 3.6				10		
			3.6 - 3.8				11		
			3.8 - 4.0				11		
			4.0 - 4.2				14		
			4.2 - 4.4				20+		

REMARKS

End of borehole @ 3.10m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: SJP

▼ Standing groundwater level

CHECKED BY: DXS

▽ GW while drilling



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HAND AUGER : HA11

JOB NO.: 135301 SHEET: 1 OF 1

START DATE: 23/07/2024 NORTHING: GRID:

DIAMETER: 50mm EASTING:

SV DIAL: DR4802 ELEVATION: Ground

FACTOR: 1.55 DATUM:

CLIENT: Sielia Trust
PROJECT: 3-Lot Subdivision

SITE LOCATION: 154 Te Raupo Road, Opuia

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE				COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY	DCP - SCALA (Blows / mm)	
Waipapa Group	NATURAL: Clayey SILT, light brownish yellow with orange & pink streaks, very stiff, moist, low to moderate plasticity		0.2	Groundwater Not Encountered					
			0.4		∇217+	-	-		
			0.6						
			0.8						
			1.0						
			1.2						
			1.4		∇202	65	3.1		
	SILT with minor clay (COMPLETELY WEATHERED ROCK), greyish white with orange brown streaks, very stiff to hard, dry to moist, no to low plasticity, slightly friable		1.6						
			1.8		∇UTP	-	-		
	1.8m: Some weakly cemented clast (<20mmø) inclusions		2.0		∇UTP	-	-		
	EOH: 2.00m - Too Hard To Auger		2.2						
			2.4						
			2.6						
			2.8						
			3.0						
			3.2						
			3.4						
			3.6						
			3.8						
			4.0						
			4.2						
			4.4						

REMARKS

End of borehole @ 2.00m (Target Depth: 5.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

LOGGED BY: NPN

▼ Standing groundwater level

CHECKED BY: DXS

▽ GW while drilling



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SIELIA TRUST

154 Te Raupo Road, Opuia

Subdivision of Allotment 271 PSH of Kawakawa & Lot 1 LT 604018

Landscape assessment

16 December 2024

24051_01

FINAL



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1.0 INTRODUCTION

The Sielia Trust (“the applicant”) is applying for a resource consent to subdivide Allotment 271 PSH of Kawakawa & Lot 1 LT 604018 at 154 Te Raupo Road, Opuia. The location of the 21.21ha property is shown on [Figure 1](#) (contained in [Appendix 1](#)), and the proposal on Figures (refer to [Figures 1a and 1b](#)). The proposed site is situated within the General Coastal Zone of the Operative District Plan, and the Rural Production with a Coastal Environment overlay in the Proposed District Plan, The location of the Site is shown in [photos 1, 2 and 3](#) (photo locations shown on [Figure 2](#)) and on [Plate 1](#) below.



Plate 1: The Site and its context

The property is also partially overlain by a High Natural Character Area(HNCA) under the Regional Policy Statement.

The AEE explains that the proposal has been developed in accordance with the Management Plan provisions of Chapter 13, however it is not proposed to proceed the application on that basis.

The application is for a combined subdivision and land use consent application. The status of the application is non-complying under the Operative District Plan in relation to both the subdivision and landuse consent applications.

Assessment methodology

This assessment has been undertaken by professional landscape consultants with reference to Te Tangi a te Manu (Aotearoa New Zealand Landscape Assessment Guidelines¹).

A Method Statement outlining the approach to this assessment and the effects ratings and definitions used is provided in [Appendix 2](#). In summary, the significance of effects identified in this assessment are based on a seven-point scale which

¹ https://nzila.co.nz/media/uploads/2022_09/Te_Tangi_a_te_Manu_Version_01_2022_.pdf

includes very low; low; low-moderate; moderate; moderate-high; high and very high ratings. For the purpose of this assessment, low-moderate equates to minor in RMA terminology.

Desktop study and site visits

In conducting this assessment, a desktop study was completed which included a review of the relevant information relating to the landscape and visual aspects of the project. This information included:

- The Operative Far North District Plan;
- Scheme plan prepared by Thomson Survey (11/07/2024);
- Geometria. Archaeological Assessment of Effects: 154 Te Raupo Road, Opuā, 16 October 2024;
- Bay Ecological Consultancy Ltd., *Ecological Impact Assessment*. 8 November 2024
- Linda Conning and Nigel Miller. *Natural areas of Kerikeri Ecological District : reconnaissance survey report for the Protected Natural Areas Programme*. Dept. of Conservation, Northland Conservancy, 1999;
- LA4 Landscape Architects. Far North District Landscape Assessment. 1995;
- GNS Science Geology Web Map Client;
- Aerial photography, Far North District Council GIS mapping, and Google Earth.

Visits to the site and its environs were undertaken on 9 and 15 August 2024. The weather during the visits was sunny with light winds.

2.0 THE PROPOSAL

The proposal is described in the AEE and illustrated on [Figures 2a – 2c](#).

The application seeks to subdivide the 21.2147ha property into three lots, and will facilitate the construction of dwellings within proposed Lots 1 and 2 (refer to [Figure 2a](#)). The property straddles a ridge and is bisected by a ridge that trends from south west to north east along the spine of the peninsula. As is illustrated in [Figure 2b](#), to the north, proposed Lot 1 (8.5320ha) will occupy the north western portion of the property, and a spur which trends to the north west.

Proposed Lot 2 (5.5458ha) will be located within the north eastern part of the property and straddles the ridge, whilst proposed Lot 3 (7.1369ha) – within the south western portion – occupies the southern ridge flank. This lot contains an existing dwelling, located on the crest of a spur which trends to the south east (refer to [Figure 2c](#)).

The proposed access will trace the existing track on the ridge crest as RoW A and B.

Landscape Treatment and mitigation measures

Recognising the sensitivity of the elevated coastal location of the proposed building sites, a suite of mitigation measures are proposed to assist with the integration of future built form and infrastructure. [Table 1](#) below details recommended design controls for the proposed lots.

In addition, measures are proposed to ensure that vegetation within the lots is retained for mitigation purposes, whilst at the same time being managed to avoid fire risk.

Building Area	All building and structures shall be predominantly located within the 'building areas' as defined on the Wilton Joubert Civil Site Suitability Report (135318-C001-A) ² . The building area will form a 'zone' (Zone 1) within which native vegetation may be removed and the availability of potential 'fuel' is minimised.
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² 'Predominantly located' is to be interpreted to mean that 80% of the GFA of buildings and structures shall be confined within the defined building area.

	<p>Thus Zone 1 shall comprise an area cleared of vegetation which would either be paved or under lawn.</p> <p>Detailed landscaping within Zone 1 should use of low growing herbaceous (non-woody) plants that stay green during the fire season and use mulches, rock and non-combustible hard surfaces where possible.</p> <p>All grassy areas must be kept mown.</p>
Building height & RL of building platform	The height of all buildings and structures within Lots 1 and 2 shall not exceed 6.0m above natural ground level using the rolling ground method.
Building form and design	<p>Building forms such as stepped structures, irregular rooflines and modulated front elevations are the most appropriate building form, particularly where buildings are located on or close to the ridge crest.</p> <p>Larger split or multilevel buildings must be articulated into smaller built masses and should incorporate single storey elements or low eaves at the perimeter to reduce their apparent bulk and scale.</p> <p>Tall prominent elevations must incorporate details such as pergolas, extended eaves, decks or loggias to break up the verticality of the building face.</p>
External finishes for buildings and structures	<p>The finishes for external surfaces of the proposed buildings and structures shall be as follows:</p> <ul style="list-style-type: none"> Refer to BS5252. The colour selection for all buildings and structures must be made from the following indicators: ³ <u>Walls:</u> Hue (Colour) All the colours from 00 – 24 are acceptable, conditional on the limitations below. <p>Reflectance Value (RV) and Greyness Groups. The predominant wall colours, shall have a RV rating of no more than 30% for greyness groups A, B and C. Colours within greyness groups D and E are not permitted.</p> <ul style="list-style-type: none"> <u>Roofs:</u> Hue (Colour) All the colours from 00 – 24 are acceptable, conditional on the limitations below. <p>Reflectance Value (RV) and Greyness Groups: Roofs shall have an RV rating of no more than 25% within greyness groups A, B and C. Colours within greyness groups D and E are not permitted</p>
Curtilage Development Area	<p>Wilton Joubert Civil Site Suitability Report (135318-C001-A) defines the 'building area'. Figure 2c shows the Zone 1 building areas and the Zone 2 curtilage areas. These latter areas are entirely (in the case of proposed Lot 1), or partially (in the case of proposed Lot 2) vegetated with native shrubland.</p> <p>Zone 2, shall comprise a buffer area with a width of 10m on the outside of Zone 1 within which vegetation can be managed to gradually replace the existing (more) flammable species with less flammable species.</p> <p>This will form a 'greenbreak' – an area where high flammability species (including manuka / kanuka,) may be removed over time and low flammability species planted as a vegetative transition / priority between the built environment and natural bush. The replacement species shall be eco-sourced from the Whangaruru Ecological District.</p> <p>The transition from existing flammable vegetation to fire resistant species should be achieved through the gradual thinning of the layer of taller flammable species as the replacement fire resistant understorey layer grows. In some circumstances this will be a 5-7 year plan, as the ecological, visual and erosion issues must also be considered. Therefore thinning of the manuka or manuka / kanuka canopy can only occur as the understorey planting reaches heights in excess of 3m to maintain the visual integration of structural elements within the site. Natural attrition of the canopy will occur, however further thinning may be undertaken upon the understorey reaching the 3m minimum height.</p>

³ CITY OF AUCKLAND DISTRICT PLAN, HAURAKI GULF ISLANDS SECTION REVIEW: COLOUR FOR BUILDINGS. Hudson Associates, (September 2006)

	<p>Only highly flammable species such as kanuka, manuka hakea, <i>Dracophyllum</i> and treeferns can be removed. It is recommended that replacement 'green break' plants are planted at a high density to ensure a rapid canopy closure and thus suppress regeneration of manuka / kanuka.</p> <p>Appropriate replacement species, and a fire management plan are included as Appendix 3.</p> <p>The purpose of retaining the existing native vegetation cover within these areas is to mitigate the potential adverse effect of vegetation removal on the landscape values of the Outstanding Natural Landscape both in terms of vegetation clearance and integration of built form.</p>
Internal roading and driveways	<p>Sites will be designed and as far as is practicable to minimise the need for excavation to form vehicular circulation and manoeuvring space. Parking areas will be integrated with the overall design of the residence and screened with landscape planting.</p> <p>Accessways and vehicular circulation and manoeuvring space are to be constructed from blue metal, a dark seal surface or from exposed aggregate concrete with a dark oxide additive.</p>
Earthworks and retaining walls	<p>(refer also to Curtilage Development Area)</p> <p>Any earthworks and grading shall be minimised. Where earthworks are necessary these are to marry in with adjacent contours, avoiding sharp batters and exposed cut faces.</p> <p>All cut and fill batters are to be grassed or appropriately planted. Cut and fill batters shall be shaped to feather naturally into the natural angle of slope. All cut and fill batters shall be grassed or otherwise vegetated to ensure complete coverage of exposed soils. <i>If retaining walls are to be constructed, these should not exceed 1.0m in height, with walls accommodating greater level changes being stepped. Natural dark materials such as timber, rammed earth and stone (including gabion baskets), with vegetation incorporated shall be used to balance the scale and soften the impact of the structure</i></p> <p>Retaining walls should be detailed sensitively. Natural dark materials such as timber, rammed earth and stone (including gabion baskets), with vegetation incorporated to balance the scale and soften the impact of the structure.</p> <p>All retaining structures that are visible from any location beyond the boundaries of the lot on which it is situated, shall be constructed from, painted / finished with a dark, recessive and natural colour.</p>

Table 1. Design, development and vegetation management guidelines

The Ecological Impact Assessment recommends that – as a condition of consent – a Pest Management & Weed Management Plan specifying monitoring and reporting procedures be prepared by a suitably qualified and experienced ecologist.⁴

3.0 EXISTING ENVIRONMENT

3.1 The site context

As is illustrated in [Figure 1](#), the subject property occupies a part of the low peninsula that separates the Whangae and Kawakawa Rivers. The peninsula rises to a height of some 40 – 50m in height. On its northern side, the Whangae River has contained character, the river channel being relatively narrow and meandering, and dominated by mangrove vegetation. At its north eastern end, the river mouth is punctuated by the Whangae Bridge, which now serves as a link in the Coast to Coast Cycleway, and it is the causeway associated with the bridge that has – presumably – slowed flow within the channel upstream of the bridge and led to the encroachment of mangroves.

⁴ Bay Ecological Consultancy Ltd., *Ecological Impact Assessment*. 8 November 2024 P6.

To the south, the Kawakawa River valley displays a more spacious character, with a broad channel and a lesser dominance of mangrove vegetation.

The Whangae River, Kawakawa River and Waikare Inlet coastal edges are identified in the Far North Landscape Assessment as forming a part of the 'Estuarine inlets and harbours' landscape category. This category, and the estuarine landscape associated with the subject Site is characterised by a sense of detachment from the open coastline with a strong degree of shelter and enclosure. The assessment attributes a serene quality to the units within the category. It notes the ubiquitous presence of mangrove vegetation and notes that this is often backed by saltmarsh associations.

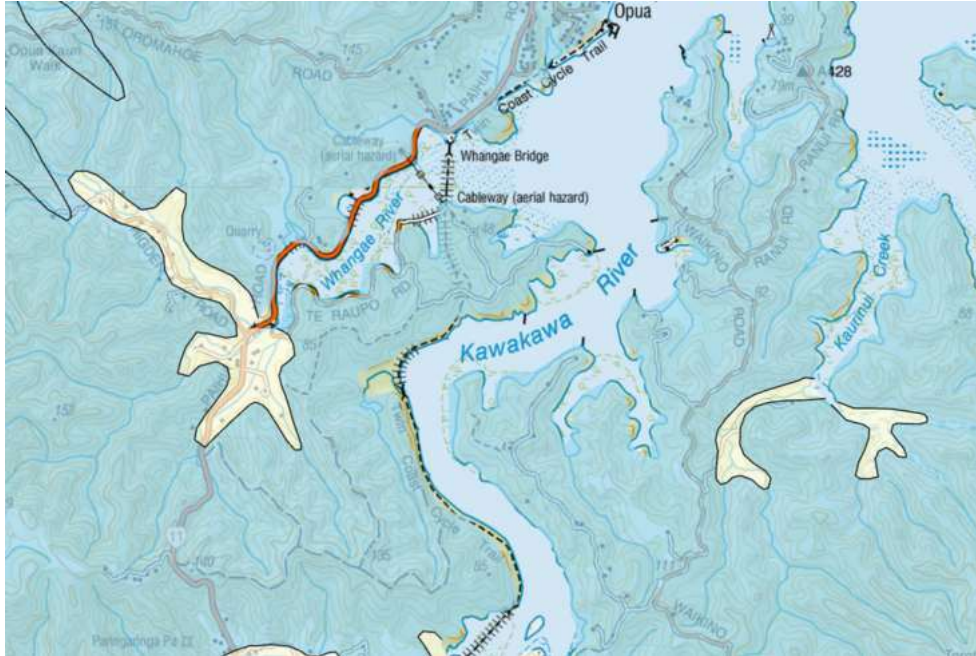


Plate 2: geology

The estuarine fingers are contained by low hills which rise to a height of some 40 – 60m, but these low coastal hills are backdropped by more elevated hill country with peaks of up to 200m in height. The underlying geology associated with the hill country is Waipapa greywacke and the resulting topography is steeply dissected with a complex hydrological pattern.



Plate 3: Oblique aerial of the Site context

As can be seen from [Plate 2](#) above, and from [photos 2, 3 and 4](#), the low coastal hills tend to be characterised by mānuka and kānuka shrubland, where historical pastured areas are gradually reverting to a native vegetation cover mixed with exotic species such as pine, and wattle. Where these transition into the elevated hill country, then the vegetation also transitions to the extensive native forest and shrubland of the Russell Forest.

The subject Site is described in the Ecological Impact Assessment as having a broad cover of kānuka dominated scrub with regenerating shrub sapling understory, although within proposed Lot 1, where vegetation clearance has occurred more recently, mānuka dominates. Generally, the Site hosts scattered podocarps – rimu, tānekaha, totara and within steep gullies, areas of mamaku dominate. On the western edge of proposed Lot 1, a kahikatea, puriri association is present with fringing wetland.

The Site has a dominant weed component in some areas with gorse, tobacco weed, wild ginger, wattle; hakea prevalent

The coastline of the inner Bay has provided strategic bastions in earlier times, with many of these displaying the remains of pā formations, and the area displays signs of a rich cultural history. It is understood that Māori occupied the Bay of Islands from as early as the 10th century although the first visitors stayed for only relatively short periods. Garden sites have been documented by archaeologists at Urimatao, on Moturua Island, and are evidence of their occupation.

Pēwhairangi, or the Bay of Islands, was the first place in New Zealand to have permanent European settlement, with missionaries arriving in 1814 and settling at Hohi next to Rangihoua pā.

The New Zealand Wars started in 1845 with the Northern War and was predominantly fought at inland pā. However, the Northern War began with the Battle of Kororāreka in the Bay of Islands.

At the northern end of a narrow peninsula opposite the Opuā Wharf, and to the north east of the Site, Otuihu pa was, early in the nineteenth century, a formidable strategic stronghold. In the 1830s the pa site quickly established a new locus for shipping and trade a short distance to the south, near the mouth of the Taumarere river where settlements at Wahapu and Okiato rapidly expanded.

The archaeological assessment describes how early inhabitants of Whangae were probably seasonal, and settlement appears to have been on tidal sand flats around the sheltered spurs jutting into the Whangae and Kawakawa Rivers. This landscape which has changed largely in the last century due to mangrove growth, erosion and river siltation.

In the first decades of the 1800s, life at Whangae began to change as small trading vessels that had previously focused on trade in the central Bay of Islands started to explore Kororāreka and the Kawakawa River, notably for timber trade, offering opportunities and encouraging more permanent settlement in the area

At the same time as Otuihu was attacked, other pa were also attacked such as that of Pumuka known as Te Raupo. The tidal estuaries in the vicinity of the Site are known as Te Raupo, these being the of the Te Roroa whanau with pa sites on the overlooking hills. Pumuka was killed fighting British forces at Kororeka in 1845 and in 1867 the Land Court granted the Te Raupo block to Pumuka's descendants.

Due to the containment provided by vegetation and landform, the Site is visually elusive. Although more readily visible from the Kawakawa and Whangae Rivers, views from Paihia and Waikino Roads are infrequent due to screening vegetation (refer to [photos 2, 4 and 5](#)).

More proximate glimpses to the western edge of the Site area possible from the Twin Coast Cycle Trail which – as is shown on [Figure 1](#) – skirts the western Site boundary as it climbs and crests a low saddle and crosses the peninsula (refer to [photo 6](#)). The route of the cycle trail affords users a variety of views of the estuarine and riverine environment, but also includes glimpses of settlement and isolated dwellings along the rivers.

This estuarine coast is a place of many moods. It can be bright and suffused with colours that are deeply saturated on a hot summer's day, whilst other times, it can be bleak, rain lashed and turbulent amid a wider landscape that is largely bleached of its colour. Despite the presence of settlement on the surrounding ridges, the riverine landscapes are imbued with feelings of remoteness.

The following attributes contribute to the character of the landscape:

- A varied and interesting coastal alignment, imparting a strong sense of drama;
- Strong vegetation patterns, dominated by mānuka, kānuka and other coastal shrubland associations;
- The sensitivity of the headlands, cliffs and coastal ridgelines;
- The visible remains of cultural sites, often on the prominent coastal headlands;
- Social and associative connections to this (in terms of the wider bay of Islands), frequently visited and valued, publicly accessible part of the Northland coast, and;
- Strong cultural associations and remaining archaeological features.

3.2 Statutory Matters

The proposed allotment sizes render the subdivision as a Non-Complying Activity.

In addition, the proposal breaches the following permitted rules.

Land Use Consent: In addition to the subdivision, the proposal does not comply with many land use rules found in the ODP. These are listed below:

- *10.8.5.1.10 Transportation – Discretionary*
- *12.2.6.1.3 Indigenous Vegetation Clearance in the General Coastal Zone – Discretionary*
- *12.4.6.1.2 Fire Risk to Residential Units – Discretionary*
- *13.7.2.1[viii] Minimum Lot Size in the General Coastal Zone – Non Complying*
- *15.1.6C.1.1[a] Private Accessway in All Zones – Discretionary*
- *15.1.6C.1.8 Frontage to Existing Roads – Discretionary*

Rules breached in the PDP include:

- *IB-R4 PER 1 Indigenous Vegetation Clearance and Any Associated Land Disturbance Outside a Significant Natural Area – Discretionary*
- *SUB-R15 Subdivision of a Site Containing a Scheduled Site and Area of Significance to Māori – Restricted Discretionary*

Under the Proposed District Plan therefore, the proposal is a Discretionary Activity.

The Site is located within the coastal environment. The **New Zealand Coastal Policy Statement (2010)** includes several objectives and policies of relevance to landscape and visual considerations. These cover a number of principle themes, being the preservation and enhancement of the natural character of the coastal environment, and the preservation of natural features and landscapes. Objective 1 and policy 13 are concerned with the preservation and avoidance of adverse effects in areas with outstanding natural character, and the avoidance, remedying or mitigation of all effects on natural character in all other areas.

Objective 2

To preserve the natural character of the coastal environment and protect natural features and landscape values through:

- *recognising the characteristics and qualities that contribute to natural character, natural features and landscape values and their location and distribution;*
- *identifying those areas where various forms of subdivision, use, and development would be inappropriate and protecting them from such activities; and*
- *encouraging restoration of the coastal environment.*

Objective 4

To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by:

- *recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy;*
- *maintaining and enhancing public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not*
- *.....;*

Policy 6

Activities in the coastal environment

(1) In relation to the coastal environment:

- (f) consider where development that maintains the character of the existing built environment should be encouraged, and where development resulting in a change in character would be acceptable;*
- (h) consider how adverse visual impacts of development can be avoided in areas sensitive to such effects, such as headlands and prominent ridgelines, and as far as practicable and reasonable apply controls or conditions to avoid those effects;*
- (i) set back development from the coastal marine area and other water bodies, where practicable and reasonable, to protect the natural character, open space, public access and amenity values of the coastal environment*

Policy 13

Preservation of natural character

(1) To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:

- (a) avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and*
- (b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment;*

including by:

- i.; and*
- ii.*

(2) Recognise that natural character is not the same as natural features and landscapes or amenity values and may include matters such as:

- (a) natural elements, processes and patterns;*
- (b) biophysical, ecological, geological and geomorphological aspects;*
- (c) natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;*

- (d) *the natural movement of water and sediment;*
- (e) *the natural darkness of the night sky;*
- (f) *places or areas that are wild or scenic;*
- (g) *a range of natural character from pristine to modified; and*
- (h) *experiential attributes, including the sounds and smell of the sea; and their context or setting.*

Policy 15

Natural features and natural landscapes

To protect the natural features and natural landscapes (including seascapes) of the coastal environment from inappropriate subdivision, use, and development:

- (a) *avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment; and*
- (b) *avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment;*

Northland Regional Policy Statement (2016)

The RPS identifies the coastal environment and a number of High and Outstanding Natural Character Areas within the vicinity of the Site. The Site is within the Coastal Environment. The estuarine margins of the Site are overlain by High Natural Character Areas. There are no Outstanding Natural Landscapes or Features overlaying the Site.

The most relevant Objective for this application is Objective 3.14.

Identify and protect from inappropriate subdivision, use and development;

- (a) *The qualities and characteristics that make up the natural character of the coastal environment, and the natural character of freshwater bodies and their margins;*
- (b) *.....;*
- (c) *.....*

The RPS also introduces a number of policies which aim to bring the RPS in line with the NZCPS under Part 4 of the RPS. Section 4.6.1 outlines the policy relevant to managing effects on natural character, features / landscapes and heritage.

Whilst noting that the site is not within an area overlain by either an Outstanding Natural Landscape, or an Outstanding Natural Feature, the following provisions are of relevance:

(1) In the coastal environment:

- (d) *Avoid adverse effects of subdivision use, and development on the characteristic and qualities which make up the outstanding natural features and outstanding natural landscapes.*
- (e) *Where (a) does not apply, avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of subdivision, use and development on natural character, natural features and natural landscapes. Methods which may achieve this include:*
 - (i) *Ensuring the location, intensity, scape and form of subdivision and built development in appropriate having regard to natural elements, landforms and processes, including vegetation patterns, ridgelines, headlands, peninsulas, dune systems, reefs and freshwater bodies and their margins: and*
 - (ii) *In areas of high natural character, minimising to the extent practicable indigenous vegetation clearance and modification (including earthworks / disturbance, structures, discharges and*

- extraction of water) to natural wetlands, the beds of lakes, rivers and the coastal marine area and their margins; and*
- (iii) *Encouraging any new subdivision and built development to consolidate within and around existing settlements or where natural character and landscape has already been compromised.*

When considering whether there are any adverse effects on the characteristics and qualities of the natural character, natural features and landscape values in terms of (1)(a), whether there are any significant adverse effects and the scale of any adverse effects in terms of (1)(b) and (2), and in determining the character, intensity and scale of the adverse effects:

- a) *Recognise that a minor or transitory effect may not be an adverse effect;*
- b) *Recognise that many areas contain ongoing use and development that:*
- (i) *Were present when the area was identified as high or outstanding or have subsequently been lawfully established*
 - (ii) *May be dynamic, diverse or seasonal;*
- c) *Recognise that there may be more than minor cumulative adverse effects from minor or transitory adverse effects; and*

Have regard to any restoration and enhancement on the characteristics and qualities of that area of natural character, natural features and/or natural landscape.

Far North District Plan

The site is located within the General Coastal Zone. This zone includes controls on development to preserve the natural character of the coastal environment and protect it from inappropriate subdivision and use. Due to the potential vulnerability of the natural environment, more is expected from developers of land in this zone in the way of preserving, and restoring the environment as part of development proposals.

The General Coastal Zone has controls aimed at preserving natural character and the restoration and enhancement of areas which may have been compromised by past land management practices. These controls reflect its coastal location and the inherent sensitivity of the coastal and adjoining marine environment and the vulnerability of these areas to change and development.

The Coastal Environment objectives and policies are of relevance to this report are 10.3.1, 10.3.2, 10.3.3, 10.3.9, 10.4.1, 10.4.2, 10.4.3, 10.4.4, 10.4.5, 10.4.6, 10.4.8, 10.4.12, 10.6.3.1, 10.6.3.2, 10.6.4.2, 10.6.4.3 and 10.6.4.6.

The Subdivision provisions of relevance to this report are 13.3.6, 13.3.7, 13.4.1, 13.4.4, 13.4.6, 13.4.11, 13.4.13.

Under the Proposed District Plan, the objectives and policies are of relevance to this report are CE-01, CE-02, CE-03, CE-P1, CE-P2, CE-P3, CE-P4, CE-P8, CE-P9, CE-P10, RPROZ-O4, RPROZ-P4, RPROZ-P5, RPROZ-P7.

The above provisions consider the natural character of the coastal environment, the visual and landscape and rural character / amenity qualities of the coastal environment, access to the coast, ecological values, and cultural values.

3.3 Visual catchment

The Site occupies a relatively enclosed and defined visual catchment which is contained by the low hills that define the estuarine and riverine landscape, and largely confined to the Kawakawa and Whangae Rivers and their margins. To the east, views of the south eastern side of the Site are available from the Kawakawa River and across the River to the Te Raupo peninsula from the indented shoreline and ridge of the Waikino / Ranui Road peninsula, with glimpse views through vegetation possible from Waikino Road (refer to [photo 3](#) and [photo 5](#)).

To the west, north west, north and north east, views to the Site are possible from the Whangae River and its margins, and from the Kawakawa River to the north (refer to [photos 8 and 4](#)). Although Paihia Road traces the Whangae River edge on its northern side, views to the River are largely obscured by mangrove vegetation glimpse views are possible as is demonstrated by [photo 2](#).

As is evidenced by [photo 8](#), distant views from elevated properties in the vicinity of Marina Rise and Ross Street, from the marina where it projects out into the river, and from elevated properties to the north of the Marina (on Franklin Street).

4.0 IDENTIFIED LANDSCAPE VALUES

Natural character values

The Northland Regional Policy Statement identified the estuarine landscape where it straddles the peninsula as being overlain by a High Natural Character Area (HNCA) (09/42 and 09/43 Kawakawa Lower Catchment – refer to [Figure 3](#)).

On the estuarine flats to the north east, HNCA 09/43 (Kawakawa Lower Catchment) is described as:

Mangroves with some saltmarsh & intertidal flats inland. Indigenous vegetation without pest plants (mangroves & saltmarsh). Part of a continuum of marine to terrestrial ecosystems. Few obvious human structures.

The estuarine flats to the south west are identified as HNCA 09/42 (Kawakawa Lower Catchment). These are described as:

Mangroves on the true left bank on the Kawakawa River on an inside bend with some intertidal flats & saltmarsh inland. Indigenous vegetation without pest plants (mangroves) and relatively close to present potential cover for site conditions. Part of a continuum of marine to terrestrial ecosystems. Few obvious human structures.

To the west of the Site, the estuarine flats are identified as Outstanding Natural Character Area, 09/45 (Whangae Catchment):

Whangae River Estuary. Tall mangrove forest grading to saltmarsh up river. Railway causeway & bridge across Whangae River entrance is not included. Causeway has been in place for nearly 150 years. Excludes small estuary arms cut off by road (SH10). Indigenous vegetation without pest plants, close to present potential cover for site conditions. Part of a continuum of marine to terrestrial ecosystems. Few obvious human structures.

Ecological values

The subject Site is identified in the Kerikeri PNAP report as P05058 (Opua Forest). The significance of the unit are described as:

Significant species included pied tit (regionally significant), NI brown kiwi (Category A threatened species), NZ pigeon (Category B threatened species), the endemic Northland green gecko (Naultinus grayi) and a small population of NI weka (Category B threatened species), introduced in 1959 which now number only a few individuals

The ecological report summarises the values of the Site as follows:

*Significance of the overall site is **HIGH** as potential habitat for fauna; wetland; integral connectivity within the broadly mapped Opus Forest PNA (#P05/075)6; natural pattern; and physical and functional buffering to the aquatic environments as riparian vegetation - erosion control.⁵*

⁵ Bay Ecological Consultancy Ltd., *Ecological Impact Assessment*. 8 November 2024. P4.

Landscape values

The Site is not overlain by an Outstanding Natural Landscape (either in the Operative District Plan, nor Proposed District Plan). Notwithstanding this, as discussed previously, the Site and its landscape context display elevated landscape values, the contributing components of which can be summarised as follows:

- A varied and interesting coastal alignment, imparting a strong sense of drama;
- Strong vegetation patterns, dominated by mānuka, kānuka and other coastal shrubland associations;
- The sensitivity of the headlands, cliffs and coastal ridgelines;
- The visible remains of cultural sites, often on the prominent coastal headlands;
- Social and associative connections to this (in terms of the wider Bay of Islands), frequently visited and valued, publicly accessible part of the Northland coast, and;
- Strong cultural associations and remaining archaeological features.

Archaeological, associative and cultural values

The archaeological report states that there are two recorded archaeological sites in close proximity to the subject property as well as a Site of Cultural Significance located nearby which is registered in the Far North District Council Operative Plan. This includes Pumuka's Pa and an urupā.

A single site was identified within the property, being Q05/895. The site, a midden has been determined to be of low archaeological significance.

5.0 ASSESSMENT OF LANDSCAPE EFFECTS

Landscape effects are described in the methodology, contained in [Appendix 2](#). In summary, landscape effects derive from changes in the physical landscape, which may give rise to changes in its character and how this is experienced. This may in turn affect the perceived value ascribed to the landscape and includes visual amenity effects under the ambit of 'experiential attributes'.

Change in a landscape does not, of itself, necessarily constitute an adverse landscape or natural character effect. Landscape is dynamic and is constantly changing over time in both subtle and more dramatic transformational ways, these changes are both natural and human induced. What is important in managing landscape change is that adverse effects are avoided or sufficiently mitigated to ameliorate the effects of the change in land use. The aim is to provide a high amenity environment through appropriate design outcomes, including planting that can provide an adequate substitution for the currently experienced amenity.

5.1 Biophysical abiotic attributes

Abiotic attributes include the landform, its geology, and hydrology.

The proposal will necessitate a very limited volume of earthworks, the proposed building areas within Lots 1 and 2 being situated on a ridge and spur crest. Earthworks for construction and access will therefore result in a slight and localised modification of the landform. Within the wider context of the landscape, this change is of a relatively small magnitude.

5.2 Biophysical biotic attributes

Biotic attributes are the living organisms which shape an ecosystem.

The Ecological Impact Assessment⁶ concludes that:

“..... the magnitude of effects of the suggested permanent clearance and introduction of further residential purpose in the proposal areas, as the primary focus, as Negligible - Low, in terms of a change from the current ecological context as per EIANZ criteria. This incorporates the quality of vegetation to be removed primarily in terms of absolute cover, low species value and its minimal role in ecosystem function. There will also be no important loss of habitat for identified fauna. No kauri are designated for removal.”

Management of the bush for fire protection will involve the selective removal of species with a high flammability (primarily mānuka and kānuka) over a limited area on the margins of the building platform (principally to the east of the platform), and their replacement with locally appropriate and locally sourced native species.

It is considered that the change in the biotic attributes of the Site will be very small.

5.3 Experiential attributes

Experiential attributes comprise the interpretation of human experience of the landscape. This includes visible changes in the character of the landscape – its naturalness as well as its sense of wildness and remoteness including effects on natural darkness of the night sky.

The future dwellings will be located, and integrated into their shrubland setting such that – in conjunction with the proposed design controls that prescribe a dark and natural external finish – they will form recessive elements within the landscape and will be subservient to the natural, vegetated landscape.

Given the visual containment afforded by landform and vegetation, opportunities to gain views of future built development will be very limited. Where views from publicly available terrestrial locations are possible, these are limited to glimpse views from roads. At the anticipated speed of travel on these roads, it is unlikely that the glimpse views will allow recognition of the future built form.

Momentary glimpses of the Lots 1 and 2 buildings will be possible from the Cycle Trail where the trail follows the river edge to the north west of the Site at distances of between 1 – 1.2km. It is considered that, at such distances, and with built form as an existing feature within the landscape, the resulting potential adverse effect will be very low.

Views to the Lot 1 building are likely to be available from the Cycle Trail where it is aligned to the west of the Site, and at separation distances of around 300 – 500m. Whilst the character of the Cycle Trail corridor is predominantly natural, glimpses of built form set within, and subservient to the landscape is a feature of the transitory experience. It is considered that a momentary view of the future dwelling at a distance of between 300 – 500m will result in a level of effect that is very low.

Views from proximate / neighbouring dwellings will not be possible since these are located on the ridge slopes to the north and north west and are oriented to the north / north east. Occupants of these dwellings will not gain views of future built form and will not be affected by the proposal.

Longer distance views from scattered properties to the east and north east on Waikino Road, or to the north west and north on the southern and northern edges of Opuā are separated by distances of between 700 – 2km.

As with views from the Whangāe and Kawakawa Rivers, the future buildings will appear as visually recessive elements given their integration with the existing shrubland vegetation, the controls imposed by the design guidelines, and the separation distances involved. These future buildings will be subservient to the natural contextual landscape, and will

⁶ Bay Ecological Consultancy Ltd., *Ecological Impact Assessment*. 8 November 2024 P38.

occupy a landscape which is already influenced by the presence of buildings set within the framework of vegetation (refer to photos 3 and 4), and it is considered that the potential adverse effect generated by the future built form for these individuals will be (at most) low.

Overall, it is considered that the change resulting from the built form facilitated by the proposal will be small, and will not noticeably change the visual character of the Site and its setting. The existing character of the coastline in the vicinity of the Site displays high levels of naturalness and intactness, but is influenced by the presence of built form. The proposal will be consistent with this existing character.

5.4 Landscape effects – Social, cultural and associative attributes

Social, cultural and associative values are linked with individual's relationship with the landscape, their memories, the way they interact with and use the landscape and the historical evidence of that relationship.

The archaeological report identified one archaeological feature that had been modified by the existing driveway at 154 Te Raupo Road. This feature was added to the recorded site Q05/895 and will not be further modified by the proposed development. It notes that there is a small possibility that subsurface archaeological remains or buried cultural deposits may still be encountered on the property during construction of the two dwellings and associated services and accessways or in the course of other ground disturbing activity on the property but recognises that this occurrence is unlikely. It states that no known archaeological sites or features are expected to be modified by the proposed development

It is understood that the proposed Site does not affect any specific social or associative links.

5.5 Summary of landscape effects

In summary, any landscape effects would be limited to a small area that has been previously modified and is now regenerating in native vegetation. Future built form, infrastructure, and area of vegetation clearance will be controlled by design controls. As such, the proposed changes will be limited in scale, and when considered in the context of the wider landscape will be insignificant in term so their influence on the character of that landscape.

The proposed structure will be hard to discern within the visual catchment due to its small scale and dark finishes. No proximate or neighbouring individual will be affected, and the proposed dwelling, with its vegetated setting and backdrop will only represent a small change in the character of the wider property. In addition, the proposal will not detract from the visual amenity of receptors in the immediate or wider visual catchment.

Overall it is the opinion of the author that the potential adverse landscape effect will be low.

6.0 ASSESSMENT OF NATURAL CHARACTER EFFECTS

Appendix 1 of the Northland Regional Policy Statement lists natural character attributes as follows:

- a) Natural elements, processes and patterns;
- b) Biophysical, ecological and geomorphological aspects;
- c) Natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;
- d) The natural movement of water and sediment;
- e) The natural darkness of the night sky;
- f) Places or areas that are wild or scenic; and
- g) Experiential attributes, including the sounds and smell of the sea; and their context or setting.

Of the above, natural elements, processes and patterns, biophysical, ecological and geomorphological aspects, natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks and the natural movement of water and sediment fall into the previously discussed biophysical (biotic and abiotic) categories.

The natural darkness of the night sky, places or areas that are wild or scenic and experiential attributes, including the sounds and smell of the sea; and their context or setting have been previously addressed under experiential attributes.

In summary therefore, the proposal will result a very small change in the abiotic and biotic attributes, and will subservient to its bushed coastal setting. No proximate or neighbouring individual will be affected, and the proposed dwelling, with its vegetated landform backdrop will only represent a small change in the character of the wider property.

The existing character of the coast in the vicinity is influenced by built form albeit to a low density in the immediate vicinity of the subject Site. The proposal will be consistent with this existing character and – in the opinion of the author – will not detract from the natural character values to any more than a very low level.

7.0 VISUAL AMENITY EFFECTS

The change in the experiential attributes of the Site have been discussed previously, and the potentially affected individuals identified. As previously noted, the proposal will be integrated into its bush setting and will not form a prominent element within the outlook from any of the potential residential nor transitory receptors.

It is the opinion of the author that the potential adverse visual amenity effect will be (at most) low

8.0 AFFECT ON THE STATUTORY FRAMEWORK

The objectives and policies of the Regional Policy Statement focus on the protection and enhancement of landscape and natural character values. These cascade down to the District Plan, General Coastal Zone and Chapter 12 objectives and policies.

Within the Operative and Proposed plans, the key themes are the natural character of the coastal environment, the visual and landscape and rural character / amenity qualities of the coastal environment, access to the coast, ecological values, and cultural values.

The subject Site is not identified in the Regional Policy Statement or Proposed District Plan as an Outstanding Natural Landscape however it is partially overlain by an High Natural Character Area in the Regional Policy Statement. The landscape values of the Site have been degraded as a result of earthworks and the construction of dwellings. The 'Outstanding Landscape' is therefore not 'rare' and has modified landscape values, in contrasts to the forested hills to the south where the forest cover is intact. The proposed location for the proposed is in an elevated and prominent location, but the building will be backdropped by existing vegetation.

The proposed building will be constructed in a location where vegetation modification has previously occurred. The earthworks and vegetation clearance necessitated by the proposal are localised and of a small scale when considered within the wider landscape context. The change in the topographical elements has been very small, and as a consequence, the proposal will result in a small change from the existing situation.

It is the opinion of the author that the level of adverse effect on the landscape and natural character values of the Site and its contextual setting will be low. The visual amenity effects generated by the proposed building will be (at most) low. The proposed structure is visually separated from neighbouring properties will not affect the privacy, outlook and enjoyment of private open spaces on adjacent sites.

Turning to 12.4.6.1.2 Fire Risk to residential units, the proposal includes measures to mitigate the potential flammability of vegetation within the vicinity of the proposed dwelling.

Overall it is considered that the proposal is consistent with the provisions of the relevant documents, where these relate to landscape and visual matters.

9.0 CONCLUSION

The application is for a resource consent to subdivide Allotment 271 PSH of Kawakawa & Lot 1 LT 604018 at 154 Te Raupo Road, Opua.

In the Operative District Plan the property is zoned General Coastal and under the Proposed District Plan, Rural production. The property is also partially overlain by a High Natural Character Area(HNCA) under the Regional Policy Statement.

Recognising the sensitivity of the elevated coastal location of the proposed building sites, a suite of mitigation measures are proposed to assist with the integration of future built form and infrastructure

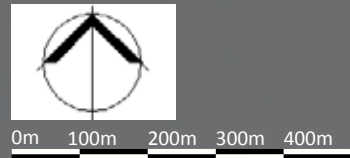
The landscape is characterised by a varied and interesting coastal alignment, imparting a strong sense of drama, strong vegetation patterns, dominated by mānuka, kānuka and other coastal shrubland associations, social and associative connections to this (in terms of the wider bay of Islands), frequently visited and valued, publicly accessible part of the Northland coast, and; and strong cultural associations and remaining archaeological features

The proposal will generate a low potential adverse landscape, potential adverse visual amenity effects that are (at most) low, and a low potential adverse natural character effect and will be consistent with the provisions of the statutory instruments where they apply to the scope of this report, and the proposal is considered to be appropriate from a landscape and visual perspective.

Simon Cocker



APPENDIX 1: Figures



- ◆ Building site
- Photo location

SIELIA TRUST: 154 Te Raupo Road

Landscape assessment

FIGURE 1: The site and its landscape context





0m 10m 20m



Ridge



Building site

SIELIA TRUST: 154 Te Raupo Road

Landscape assessment

FIGURE 2a: The site and proposed Lot 1 and 2 building sites





EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY	(A) (B)	LOT 3 HEREON	E.I. 12055652.3
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(C)	LOT 2 HEREON	RC2240273 (LOT 2 DP 62916)
RIGHT OF WAY	(D)	LOT 5 HEREON	RC2240273 (LOT 2 LT 604018)

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS & ELECTRICITY	(A) (B)	LOT 3 HEREON	LOTS 1 & 2 HEREON

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AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

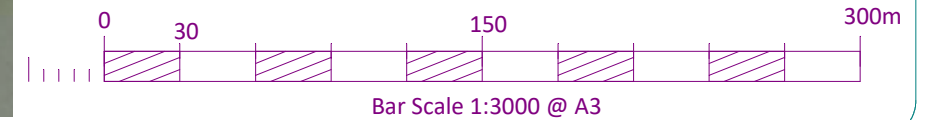
Local Authority: Far North District Council

Comprised in: TITLE REF AWAITING COMPLETION OF RC 2240273

Total Area: 21.2147Ha

SIELIA TRUST: 154 Te Raupo Road
 Landscape assessment
 FIGURE 2b: Scheme plan

This plan and accompanying report(s) have been prepared for the purpose of obtaining a Resource Consent only and for no other purpose. Use of this plan and/or information on it for any other purpose is at the user's risk.



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**PROPOSED SUBDIVISION OF ALLOTMENT 271
 PSH OF KAWAKAWA & LOT 1 LT 604018 (RC 2240273)
 154 TE RAUPO ROAD, OPUA**

PREPARED FOR: S. MASON

Name	Date	ORIGINAL	SHEET SIZE
Survey		SCALE	
Design		1:3000	A3
Drawn	KY 11.07.24		
Approved			
Rev			
9112 Scheme 20240711			

Surveyors Ref. No:
9112
 Sheet 1 of 1



SIELIA TRUST: 154 Te Raupo Road
 Landscape assessment
 FIGURE 2c: Location of the proposed building sites



SIELIA TRUST: 154 Te Raupo Road
Landscape assessment

FIGURE 3: Excerpt from Regional Policy Statement maps (showing High Natural Character Areas)





Photo 1: View north from Rail Trail showing Whangae River

Photo source: Wikipedia [https://en.wikipedia.org/wiki/Whangae_River]

SIELIA TRUST: 154 Te Raupo Road





Photo 2: View to Site from Paihia Road

SIELIA TRUST: 154 Te Raupo Road

Photos taken with digital equivalent of 50mm focal length unless otherwise specified.
Photos represent a 124° horizontal and 55° vertical field of view, and should be read at a distant of 400mm

Photo date: 9 August 2024



Photo 3: View to east from ridge crest within Lot 3

Photo date: 15 August 2024

SIELIA TRUST: 154 Te Raupo Road

Photos taken with digital equivalent of 50mm focal length unless otherwise specified.
Photos represent a 124° horizontal and 55° vertical field of view, and should be read at a distant of 400mm



Lot 2 building area

Lot 1 building area

Photo 4: View to Lots 1 and 2 building areas from River edge (accessed from Beaufort Street)

SIELIA TRUST: 154 Te Raupo Road

Photos taken with digital equivalent of 50mm focal length unless otherwise specified.
Photos represent a 124° horizontal and 55° vertical field of view, and should be read at a distant of 400mm

Photo date: 9 August 2024



Photo 5: View to Site from Waikino Road

Photo date: 15 August 2024

SIELIA TRUST: 154 Te Raupo Road

Photos taken with digital equivalent of 50mm focal length unless otherwise specified.
Photos represent a 124° horizontal and 55° vertical field of view, and should be read at a distant of 400mm





Photo 6: Intersection of access and Cycle Trail looking north east toward the Lot 1 spur

Photo date: 15 August 2024

SIELIA TRUST: 154 Te Raupo Road

Photos taken with digital equivalent of 50mm focal length unless otherwise specified. Photos represent a 124° horizontal and 55° vertical field of view, and should be read at a distant of 400mm



Proposed building

Photo 7: View to Lot 1 building area from access close to the Cycle Trail

SIELIA TRUST: 154 Te Raupo Road

Photos taken with digital equivalent of 50mm focal length unless otherwise specified.
Photos represent a 124° horizontal and 55° vertical field of view, and should be read at a distant of 400mm

Photo date: 15 August 2024



Photo 8: View north from Lot 2 building area

Photo date: 15 August 2024

SIELIA TRUST: 154 Te Raupo Road

Photos taken with digital equivalent of 50mm focal length unless otherwise specified.
Photos represent a 124° horizontal and 55° vertical field of view, and should be read at a distant of 400mm

APPENDIX 2: Landscape and Visual Effects Assessment Methodology

Landscape and Visual Effects Assessment Methodology

Introduction

The landscape and visual effects assessment process provides a framework for assessing and identifying the nature and level of likely effects that may result from a proposed development. Such effects can occur in relation to changes to physical elements, the existing character of the landscape and the experience of it. In addition, the landscape assessment method may include an iterative design development processes which includes stakeholder involvement. The outcome of any assessment approach should seek to avoid, remedy or mitigate adverse effects. A separate assessment is required to assess changes in natural character in coastal areas and other waterbodies.

When undertaking landscape and visual effects assessments, it is important that a structured and consistent approach is used to ensure that findings are clear and objective. Judgement should always be based on skills and experience, and be supported by explicit evidence and reasoned argument.

While landscape and visual effects assessments are closely related, they form separate procedures. The assessment of the potential effect on the landscape forms the first step in this process and is carried out as an effect on an environmental resource (i.e. landscape elements, features and character). The assessment of visual effects considers how changes to the physical landscape affect the viewing audience. The types of effects can be summarised as follows:

Landscape effects:

Change in the physical landscape, which may change its characteristics or qualities.

Visual effects:

Change to views which may change the visual amenity experienced by people.

The policy context, existing landscape resource and locations from which a development or change is visible all inform the 'baseline' for landscape and visual effects assessments. To assess effects, the landscape must first be described, including an understanding of the key landscape characteristics and qualities. This process, known as landscape characterisation, is the basic tool for understanding landscape character and may involve subdividing the landscape into character areas or types. The condition of the landscape (i.e. the state of an individual area of landscape or landscape feature) should also be described alongside a judgement made on the value or importance of the potentially affected landscape.

This outline of the landscape and visual effects assessment methodology has been undertaken with reference to the Quality Planning Landscape Guidance Note¹ and its signposts to examples of best practice which include the UK guidelines for landscape and visual impact assessment² and Te Tangi a te Manu³.

Assessing landscape effects requires an understanding of the nature of the landscape resource and the magnitude of change which results from a proposed development to determine the overall level of landscape effects.

Nature of the landscape resource

Assessing the nature of the landscape resource considers both the susceptibility of an area of landscape to change and the value of the landscape. This will vary upon the following factors:

- Physical elements such as topography / hydrology / soils / vegetation;
- Existing land use;
- The pattern and scale of the landscape;
- Visual enclosure / openness of views and distribution of the viewing audience;

¹ <http://www.qualityplanning.org.nz/index.php/planning-tools/land/landscape>

² Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3)

³ Te Tangi a te Manu (Aotearoa New Zealand Landscape Guidelines), NZILA July 2022.

- The zoning of the land and its associated anticipated level of development;
- The value or importance placed on the landscape, particularly those confirmed in statutory documents; and
- The scope for mitigation, appropriate to the existing landscape.

The susceptibility to change takes account of both the attributes of the receiving environment and the characteristics of the proposed development. It considers the ability of a specific type of change occurring without generating adverse effects and/or achievement of landscape planning policies and strategies.

Landscape value derives from the importance that people and communities, including tangata whenua, attach to particular landscapes and landscape attributes. This may include the classification of Outstanding Natural Landscape (RMA s.6(b)) based on important biophysical, sensory/ aesthetic and associative landscape attributes, which have potential to be affected by a proposed development.

Magnitude of Landscape Change

The magnitude of landscape change judges the amount of change that is likely to occur to existing areas of landscape, landscape features, or key landscape attributes. In undertaking this assessment, it is important that the size or scale of the change is considered within the geographical extent of the area influenced and the duration of change, including whether the change is reversible. In some situations, the loss /change or enhancement to existing landscape elements such as vegetation or earthworks should also be quantified.

When assessing the level of landscape effects, it is important to be clear about what factors have been considered when making professional judgements. This can include consideration of any benefits which result from a proposed development. Table 1 below helps to explain this process. The tabulating of effects is only intended to inform overall judgements.

Contributing factors		Higher	Lower
Nature of Landscape Resource	Susceptibility to change	The landscape context has limited existing landscape detractors which make it highly vulnerable to the type of change which would result from the proposed development.	The landscape context has many detractors and can easily accommodate the proposed development without undue consequences to landscape character.
	The value of the landscape	The landscape includes important biophysical, sensory and associative attributes. The landscape requires protection as a matter of national importance (ONF/L).	The landscape lacks any important biophysical, sensory or associative attributes. The landscape is of low or local importance.
Magnitude of Change	Size or scale	Total loss or addition of key features or elements. Major changes in the key characteristics of the landscape, including significant aesthetic or perceptual elements.	The majority of key features or elements are retained. Key characteristics of the landscape remain intact with limited aesthetic or perceptual change apparent.
	Geographical extent	Wider landscape scale.	Site scale, immediate setting.
	Duration and reversibility	Permanent. Long term (over 10 years).	Reversible. Short Term (0-5 years).

Table 1: Determining the level of landscape effects

Visual Effects

To assess the visual effects of a proposed development on a landscape, a visual baseline must first be defined. The visual 'baseline' forms a technical exercise which identifies the area where the development may be visible, the potential viewing audience, and the key representative public viewpoints from which visual effects are assessed.

The viewing audience comprises the individuals or groups of people occupying or using the properties, roads, footpaths and public open spaces that lie within the visual envelope or 'zone of visual influence' of the site and proposal. Where

possible, computer modelling can assist to determine the theoretical extent of visibility together with field work undertaken to confirm this. Where appropriate, key representative viewpoints should be agreed with the relevant local authority.

Nature of the viewing audience

The nature of the viewing audience is assessed in terms of the susceptibility of the viewing audience to change and the value attached to views. The susceptibility of the viewing audience is determined by assessing the occupation or activity of people experiencing the view at particular locations and the extent to which their interest or activity may be focused on views of the surrounding landscape. This relies on a landscape architect's judgement in respect of visual amenity and reaction of people who may be affected by a proposal. This should also recognise that people more susceptible to change generally include: residents at home, people engaged in outdoor recreation whose attention or interest is likely to be focused on the landscape and on particular views; visitors to heritage assets or other important visitor attractions; and communities where views contribute to the landscape setting.

The value or importance attached to particular views may be determined with respect to its popularity or numbers of people affected or reference to planning instruments such as viewshafts or view corridors.

Important viewpoints are also likely to appear in guide books or tourist maps and may include facilities provided for its enjoyment. There may also be references to this in literature or art, which also acknowledge a level of recognition and importance.

Magnitude of Visual Change

The assessment of visual effects also considers the potential magnitude of change which will result from views of a proposed development. This takes account of the size or scale of the effect, the geographical extent of views and the duration of visual change which may distinguish between temporary (often associated with construction) and permanent effects where relevant. Preparation of any simulations of visual change to assist this process should be guided by best practice as identified by the NZILA⁴.

When determining the overall level of visual effect, the nature of the viewing audience is considered together with the magnitude of change resulting from the proposed development. Table 2 has been prepared to help guide this process:

Contributing factors		Higher	Lower
Nature of Landscape Resource	Susceptibility to change	Views from dwellings and recreation areas where attention is typically focussed on the landscape..	Views from places of employment and other places where the focus is typically incidental to its landscape context. Views from transport corridors.
	The value of the landscape	Viewpoint is recognised by the community such as an important view shaft, identification on tourist maps or in art and literature. High visitor numbers.	Viewpoint is not typically recognised or valued by the community. Infrequent visitor numbers..
Magnitude of Change	Size or scale	Loss or addition of key features in the view. High degree of contrast with existing landscape elements (i.e. in terms of form scale, mass, line, height, colour and texture). Full view of the proposed development	Most key features of view retained. Low degree of contrast with existing landscape elements (i.e. in terms of form scale, mass, line, height, colour and texture). Glimpse / no view of the proposed development.
	Geographical extent	Front on views. Near distance views; Change visible across a wide area.	Oblique views. Long distance views. Small portion of change visible.
	Duration and reversibility	Permanent. Long term (over 15 years).	Transient / temporary. Short Term (0-5 years).

Nature of Effects

⁴ Best Practice Guide: Visual Simulations BPG 10.2, NZILA

In combination with assessing the level of effects, the landscape and visual effects assessment also considers the nature of effects in terms of whether this will be positive (beneficial) or negative (adverse) in the context within which it occurs. Neutral effects can also occur where landscape or visual change is benign.

It should also be noted that a change in a landscape does not, of itself, necessarily constitute an adverse landscape or visual effect. Landscape is dynamic and is constantly changing over time in both subtle and more dramatic transformational ways, these changes are both natural and human induced. What is important in managing landscape change is that adverse effects are avoided or sufficiently mitigated to ameliorate the effects of the change in land use. The aim is to provide a high amenity environment through appropriate design outcomes.

This assessment of the nature effects can be further guided by Table 3 set out below:

Nature of effect	Use and definition
Adverse (negative):	The proposed development would be out of scale with the landscape or at odds with the local pattern and landform which results in a reduction in landscape and / or visual amenity values
Neutral (benign):	The proposed development would complement (or blend in with) the scale, landform and pattern of the landscape maintaining existing landscape and / or visual amenity values
Beneficial (positive):	The proposed development would enhance the landscape and / or visual amenity through removal of restoration of existing degraded landscapes uses and / or addition of positive elements or features

Table 3: Determining the Nature of Effects

Cumulative Effects

During the scoping of an assessment, where appropriate, agreement should be reached with the relevant local authority as to the nature of cumulative effects to be assessed. This can include effects of the same type of development (e.g. wind farms) or the combined effect of all past, present and approved future development⁵ of varying types, taking account of both the permitted baseline and receiving environment. Cumulative effects can also be positive, negative or benign.

Cumulative Landscape Effects

Cumulative landscape effects can include additional or combined changes in components of the landscape and changes in the overall landscape character. The extent within which cumulative landscape effects are assessed can cover the entire landscape character area within which the proposal is located, or alternatively, the zone of visual influence from which the proposal can be observed.

Cumulative Visual Effects

Cumulative visual effects can occur in combination (seen together in the same view), in succession (where the observer needs to turn their head) or sequentially (with a time lapse between instances where proposals are visible when moving through a landscape). Further visualisations may be required to indicate the change in view compared with the appearance of the project on its own.

Determining the nature and level of cumulative landscape and visual effects should adopt the same approach as the project assessment in describing both the nature of the viewing audience and magnitude of change leading to a final judgement. Mitigation may require broader consideration which may extend beyond the geographical extent of the project being assessed.

Determining the Overall Level of Effects

The landscape and visual effects assessment concludes with an overall assessment of the likely level of landscape and visual effects. This step also takes account of the nature of effects and the effectiveness of any proposed mitigation.

⁵ The life of the statutory planning document or unimplemented resource consents

This step informs an overall judgement identifying what level of effects are likely to be generated as indicated in Table 4 below. This table which can be used to guide the level of landscape and visual effects uses an adapted seven-point scale derived from Te Tangi a te Manu (Aotearoa New Zealand Landscape Guidelines)

	Effect rating	Use and definition
More than minor	Very high	Total loss of key elements / features / characteristics, i.e. amounts to a complete change of landscape character
	High	Major modification or loss of most key elements / features / characteristics, i.e. little of the pre-development landscape character remains. Concise Oxford English Dictionary Definition High: adjective- Great in amount, value, size, or intensity
	Moderate to high	Modifications of several key elements / features / characteristics of the baseline, i.e. the pre-development landscape character remains evident but materially changed.
	Moderate	Partial loss of or modification to key elements / features / characteristics of the baseline, i.e. new elements may be prominent but not necessarily uncharacteristic within the receiving landscape. Concise Oxford English Dictionary Definition Moderate: adjective- average in amount, intensity, quality or degree
Minor	Moderate to low	Minor loss of or modification to one or more key elements / features / characteristics, i.e. new elements are not prominent or uncharacteristic within the receiving landscape.
	Low	No material loss of or modification to key elements / features / characteristics. i.e. modification or change is not uncharacteristic and absorbed within the receiving landscape. Concise Oxford English Dictionary Definition Low: adjective- 1. Below average in amount, extent, or intensity
Less than minor	Very low	Little or no loss of or modification to key elements/ features/ characteristics of the baseline, i.e. approximating a 'no change' situation.

Table 4: Determining the overall level of landscape and visual effects

Determination of “minor”

Decision makers determining whether a resource consent application should be notified must also assess whether the effect on a person is less than minor⁶ or an adverse effect on the environment is no more than minor⁷. Likewise, when assessing a non-complying activity, consent can only be granted if the s104D ‘gateway test’ is satisfied. This test requires the decision maker to be assured that the adverse effects of the activity on the environment will be ‘minor’ or not be contrary to the objectives and policies of the relevant planning documents.

These assessments will generally involve a broader consideration of the effects of the activity, beyond the landscape and visual effects. Through this broader consideration, guidance may be sought on whether the likely effects on the landscape resource or effects on a person are considered in relation to ‘minor’. It must also be stressed that more than minor effects on individual elements or viewpoints does not necessarily equate to more than minor effects on the wider landscape resource. In relation to this assessment, moderate-low level effects would generally equate to ‘minor’.

⁶ RMA, Section 95E

⁷ RMA Section 95D

APPENDIX 3: Flammability of native species

Appendix C: Flammability of native plant species

The following flammability classes are based on a series of surveys conducted by staff from Forest Research's rural fire research programme.

Experienced fire managers throughout New Zealand were asked to rank a list of native species in terms of flammability in the light of their observations at wildfires and prescribed burns under different fire danger conditions.

The final list of 42 species in five flammability classes is intended as a guide only. Genetic and environmental factors will affect the flammability of particular species, eg older plants carrying more dead material, drought conditions, or where a plant is situated.

Flammability class: Low

Suitable for green breaks or defensible space, but when in the immediate vicinity of structures, leave at least a 3 to 4 metre break between the crowns to reduce fuel continuity.

Low flammability species

<i>Fuchsia excorticata</i>	Kotukutuku
<i>Pseudopanax crassifolius</i>	Horoekea/Lancewood
<i>Pseudopanax arboreus</i>	Five finger
<i>Coprosma robusta</i>	Karamu
<i>Coprosma grandifolia</i>	Raurekau/Kanono
<i>Geniostoma ligustrifolium</i>	Hangehange
<i>Coprosma australis</i>	Raurekau
<i>Coprosma repens</i>	Taupata
<i>Carpodetus serratus</i>	Putaputaweta
<i>Corynocarpus laevigatus</i>	Karaka
<i>Griselinia littoralis</i>	Papauma/Broadleaf
<i>Griselinia lucida</i>	Puka
<i>Macropiper excelsum</i>	Kawakawa/Peppertree
<i>Solanum aviculare</i>	Poroporo

Flammability class: Low/moderate

Not recommended for planting in green breaks. If planted in defensible space, remove elevated dead material and litter regularly, leave greater than 4 metres between tree crowns, and don't plant trees or shrubs in this category within 10 metres of structures.

Low/moderate flammability species

<i>Hebe salicifolia</i> and <i>H. stricta</i>	Koromiko
<i>Melicytus lanceolatus</i>	Mahoe wao
<i>Melicytus ramiflorus</i>	Mahoe/Whiteywood
<i>Aristotelia serrata</i>	Mako-mako/Wineberry
<i>Coriaria arborea</i>	Tutu
<i>Myoporum laetum</i>	Ngaio
<i>Pittosporum crassifolium</i>	Karo
<i>Pittosporum eugeniioides</i>	Tarata/Lemonwood
<i>Hoheria</i> spp.	Hoheria/Lacebark
<i>Knightia excelsa</i>	Rewarewa
<i>Nothofagus menziesii</i>	Tawhai/Silver beech
<i>Phyllocladus glaucus</i>	Toatoa
<i>Plagianthus regius</i>	Manatu/Ribbonwood
<i>Weinmannia racemosa</i>	Kamahi

Flammability class: Moderate	
Most of these species produce heavy accumulations of flammable litter and elevated dead material, and/or have flammable green foliage. Not recommended for green breaks or for planting in defensible space.	
Moderate flammability species	
<i>Beilschmiedia tawa</i>	Tawa
<i>Cordyline australis</i>	Ti kouka/Cabbage tree
<i>Pittosporum tenuifolium</i>	Kohuhu
<i>Dacrydium cupressinum</i>	Rimu
<i>Metrosideros umbellata</i>	Southern rata
<i>Agathis australis</i>	Kauri
<i>Phormium</i> spp.	Flax
<i>Podocarpus dacrydioides</i>	Kahikatea/White pine
<i>Weinmannia silvicola</i>	Tawhero/Towhai
Flammability class: Moderate/high	
Species may have flammable green foliage and/or produce high levels of litter and elevated fuel. Not recommended for green breaks or defensible space.	
Moderate/high flammability species	
<i>Podocarpus totara</i>	Totara
<i>Dodonaea viscosa</i>	Ake-ake
<i>Cyathea</i> and <i>Dicksonia</i> spp.	Tree ferns
<i>Cyathodes fasciculata</i>	Mingimingi
Flammability class: High	
Species burn readily at low/moderate forest fire danger conditions.	
High flammability species	
<i>Kunzea ericoides</i>	Kanuka
<i>Leptospermum scoparium</i>	Manuka

ECOLOGICAL IMPACT ASSESSMENT (ECIA)



**PROPOSED SUBDIVISION
154 TE RAUPŌ RD; OPUA
ALLOT 271 PSH OF KAWAKAWA & ALLOT 192 PSH OF KAWAKAWA
STEVE MASON**



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This report may be cited as-

BAY ECOLOGICAL CONSULTANCY LTD 8/ 11/2024 ECOLOGICAL IMPACT ASSESSMENT (EcIA) PROPOSED MASON SUBDIVISION LOTS 150 TE RAUPŌ ROAD; OPUA Allot 271 PSH OF KAWAKAWA & ALLOT 192 PSH OF KAWAKAWA

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ECOLOGICAL IMPACT ASSESSMENT (EcIA)

PROPOSED SUBDIVISION 154 TE RAUPŌ ROAD; OPUA

ALLOT 271 PSH OF KAWAKAWA & ALLOT 192 PSH OF KAWAKAWA

8th NOVEMBER 2024



EXECUTIVE SUMMARY

Bay Ecological Consultancy Ltd has been requested by owner Steve Mason to undertake an Ecological Impact Assessment (EcIA) in regards to a subdivision scheme of the Te Raupō Rd subject properties *ALLOT 271 PSH OF KAWAKAWA & Lot 1 DP 604018*.

The proposed building platforms and access occupy areas previously cleared (< 10years), currently occupied by exotic dominant seral vegetation accessed from an existing ridgeline spine.

Site habitat has been considered on the basis of a desktop review of available ecological background, followed by a site visit on the 20th September 2024 to ground truth expectations. Site photos are provided for illustration.

Reporting provides consideration of significance in regard to Northland Regional Policy Statement *Appendix 5* (2018). The core foundation principles for ecological assessment therein are also directly aligned with the *Appendix 1* criteria of the recently gazetted *National Policy Statement for Indigenous Biodiversity* (2023)¹.

This review followed structure and content requirements of the EIANZ EcIA Guideline (2018)² as the best practice standard for ecological impact assessment in NZ, specifically the core stages of

- Scoping - desktop & fieldwork evaluation of ecological context of the site and surrounds
- Description
- Evaluation of significance
- Assessment of impacts/ effects and impact management, including any monitoring ongoing requirements

and with regard to non statutory NZ guideline documents

- *Guidelines for the application of ecological significance criteria for indigenous vegetation and habitats of indigenous fauna in the Northland Region* (Wildlands 2019)
- *Department of Conservation guidelines for assessing significant ecological values* (Davis et al 2016)

¹ 4/8/2023 *Appendix 1 : Criteria for identifying areas that qualify as significant natural areas (SNAs)*

² Roper- Lindsay, J; Fuller, S.A; Hooson, S; Sanders, S.A; Usher, G. T. (2018) *Ecological Impact Assessment. EIANZ Guidelines for use in New Zealand: terrestrial and freshwater ecosystems. 2nd Ed.*

SUMMARY ECOLOGICAL CONTEXT

- Mapped predicted ecosystem type³ *WF11 Kauri podocarp broadleaved* has been refined onsite to variants *kānuka* dominant cover in a complex matrix of *AOF1 Kānuka forest & tall shrubland* – to *AS1/ AS3 Kānuka shrubland* dependant on condition. *Kānuka* dominant canopy /common and unpalatable pioneer species/ frequent exotic component of *hakea*; *wattle*; *gorse*, *tobacco weed*. Associations partition dependant on age & microsite conditions e.g. exposure; topography and moisture, ranging at poorest to less diverse ecosystem type *AS1 Kānuka shrubland with native shrubs*
- Further associations include *VS4 mānuka scrub* & *Mamaku* dominant gully heads, reflecting higher disturbance.
- Gullies contain heightened diversity including maturing broadleaves reflecting shelter and moisture elevated by the topography. The southeastern headland of proposed Lot 2 is also comparatively more mature and diverse.
- Proposed Lots 1 & 2 designated building platforms/ clearance have been previously cleared, most recently prior to 2004, are of poorer quality and partially open. They are considered to have a lesser representation of the wider sites values and characteristics as a part of a wider ecological unit.
- *Natural inland wetland*⁴ according to the regulatory protocol⁵ occurs to a limited extent on proposed Lot 1 & 2 in swamp gully heads. However, assuming the protective regulations of the NES-F (2020) apply, proposed building platforms are outside 100m setback. *Known wetland* mapping includes saltmarsh extending into the north of proposed Lot 2. Within the CMA it is no longer defined as *natural inland wetland*, however it is contiguous with the identified swamp.
- The entire site included in the PNA Opua Forest (P05/0750 unit. High Natural Character Units (PFNDP & RPS) capture saltmarsh extent in the CMA with a small portion extending as before into the north of proposed Lot 2.
- Birds recorded during 5 minute bird counts were common native and exotic insectivores. The area is mapped *Kiwi Present (DoC 2018)*; *weka* are noted in the PNA reporting and the adjacent saltmarsh in the CMA is mapped as *Critical Bird Habitat – Bittern (PRP)*.
- There are no mapped rivers. Ephemeral gullies on the south in proposed Lots 2 & 3 are not fish habitat.
- There are no FWFD records from the wetland areas proposed Lot 1 & 2. Potential local species include eel, common, redfin & giant bullies. The proposed Lot 1 wetland is occluded by a perched culvert under the Twin Coast Cycle Trail in the Rail Corridor however resident populations may be present.
- Significance of the overall site is **HIGH** as potential habitat for fauna; wetland; integral connectivity within the broadly mapped Opus Forest PNA (#P05/075)⁶; natural pattern; and physical and functional buffering to the aquatic environments as riparian vegetation - erosion control. The designated clearance envelopes occupy de minimus and depauperate representation of these values and characteristics, by virtue of presence rather than quality having been subject to edge effects from tracks and more recent clearance.

³https://services2.arcgis.com/J8errK5dyxu7Xjf7/arcgis/rest/services/Northland_Biodiversity_Ranking/FeatureServer

⁴ Subpart (3) 3.2.1 National Policy Statement for Freshwater Management (NPS –FM 2020) amended 8/12/2022

⁵ Ministry for the Environment. 2022. Wetland delineation protocols. Wellington: Ministry for the Environment.

⁶ Booth(2005) Natural Areas of the Whangaruru Ecological District. Reconnaissance Report for the Protected Natural Areas Programme. DoC Whangarei

SUMMARY EFFECTS & MANAGEMENT

The primary effect is clearance of vegetation, followed by intensification of residential occupation in the shrubland ecosystem. Designated building platforms (30 x 30m) and access are to be encompassed by firebuffer replanted in low flammability native vegetation.

- house site 30 x30 m (900m²) + 10m fire buffer to be revegetated (700 m²)
- Proposed Lot 1 additional 4m x approx. 60m wide access (240m²) + 5m eitherside revegetated fire buffer (600m²)

Building sites are to pre emptively sited at easy accessible contour in vegetation impacted by edge effects and exotics. Lot 2 in particular has existing clear area, while Lot 1 is more recently established mānuka with low diversity and a strong exotic component. Currently clear areas will be maintained as such for additional fire safety and utility e.g. main ridge access to both sites; established access to Lot 2 DP 604018 from proposed Lot 2 to allow retreat.

In terms of the house sites and access the vegetation is largely considered of *LOW-NEGLIGIBLE* value ie. not significant and the fire buffer revegetation an improvement on overall condition.

- ✓ The primary effect is permanent clearance. In response it is proposed to provide a net gain of at least 700m² per site of more diverse vegetation over the current condition with 10m wide fire buffer revegetation of designated clearance area with fire resistant species
- The permanent removal of development areas vegetation will have a *VERY LOW* or *less than minor* effect. Biodiversity and successional capability will increase directly within and adjacent the point of impact (clearance area).
- Wider site values or habitat, linkage and buffering of the broader vegetation with which the area has connectivity is maintained, aligned with aspirations of the objectives and policies of the FNDP Chapter 12 and Coastal Policy Statement (11).
- This will be complemented by species led management of priority weeds on both sites with revegetation with kānuka as appropriate in any large gaps created.

Additional **potential, but avoidable** effects of development are hydrological change; ongoing encroachment, weed and pest incursion. In response, the overall outcome may be controlled to a *Very Low (EIANZ)* or *less than minor* impact through a series of rigorous measures.

This primary effects management is bolstered by proposed protection mechanisms, considered protective of the wider site ecological unit, including hydrological features, further terrestrial vegetation, *High Natural Character* and the identified *Opuā Forest PNA*. These will ensure the current and any future owner avoid further impact during development or residential occupation.

Covenant of remaining vegetation will encompass ephemeral hydrology and CSA in gullies to near shore marine environment , as well as natural inland wetland and riparian margins, in consideration of development on the whole-of-catchment basis, including the effects on receiving environments.

Primary recommendations -

- Vegetation clearance shall not exceed the maximum areas shown in an approved Scheme Plan and positioned generally in accordance with such.
- Where practicable, all vegetation clearance for development shall be undertaken in autumn (February – April) to avoid peak breeding for native fauna.
- Best practice clearance methods to be used –
 - Manual clearance should be undertaken from the outer edge to give opportunity for any wildlife to move back into remaining cover
 - Cutting and stumping of large specimens is recommended in the buffer areas, rather than a site scrape. This protects soil structure for the revegetation and retains slope stabilizing root tensile strength while new plants establish
 - Avoidance of peak bird breeding season and kiwi dog check prior to clearance
 - Machinery clean of soil and debris prior to site entry
- Within three months of the completion of vegetation clearance, an as-built plan will be provided to Far North District Council showing the extent of existing and newly cleared areas
- Within twelve months of the completion of vegetation clearance provide evidence that planting plan has been implemented.
- The remaining extent of the Lots will be subject to a formal protection instrument (covenant) with conditions to include no outdoor fires; only indigenous species aligned with WF11 kauri podocarp broadleaved forest type; no floodlighting of covenant areas; outdoor lighting to be hooded and no blue light spectrum
- A formal **Pest Management & Weed Management Plan** specifying monitoring and reporting procedures prepared by a suitably qualified and experienced ecologist designed in general accordance with the EclA to ensure resilience and functional habitat -
 - mitigate clearance areas through increasing predator control to provide higher functionality of remaining habitat
 - removal of intergraded exotic infestations enabling increased and more diverse natural regeneration assisted by the browser control
 - effectively increasing *values* of wetland and protect *extent* from invasion of non wetland shrubs and herbaceous species e.g. wild ginger⁷ *Hedychium gardnerianum*; mistflower *Ageratina riparia*
- *ALL LOTS* – no cats; or mustelids. Standard dog control conditions for Kiwi Present zone e.g. kiwi aversion trained
- *ALL LOTS* - Exotic vegetation which could adversely affect natural regeneration or local forest health is not to be introduced. This includes environmental weeds⁸ and those listed in the National Pest Plant Accord⁹.

Management will confer gross ecological benefit and amenity value, to restore and enhance biodiversity values, maintaining the continuity of natural processes and systems of the local ecosystems.

⁷ *Hedychium gardnerianum* -currently no wetland ranking but highly tolerant of damp riparian conditions

⁸ McAlpine, K & Howell, C. Clayson (2024) List of environmental weeds in New Zealand. Science for Conservation Series 340, DoC Wellington

⁹ Latest List - <https://www.mpi.govt.nz/dmsdocument/3664-National-Pest-Plant-Accord-manual-Reprinted-in-February-2020-minor-amendments-only>

SITE PROPOSAL

The Mason proposal, a subdivision of Allot 271 PSH OF Kawakawa (NA ha) & Allot 192 PSH OF Kawakawa(NA ha), is accessed off Te Raupō Rd, approx. 2km from its junction with Paihia Road. The overall site in the General Coastal Zone occupies a peninsula from 41masl at its central ridge to the estuarine Kawakawa River.

The activity will create 3 allotments with vehicle access from Te Raupō Rd via an existing formed ROW. Current built form is situated on proposed Lot 3, consisting of a habitable shed and basic residential infrastructure. A consented jetty extends into the Kawakawa River at the bottom of the Lot 3 southeast facing slope.

Proposed Lots 1 & 2 require clearance for residential house sites, pre-emptively located on the upper, easier accessible contour of the sloping sites, utilising existing access formation to minimise fragmentation and earthworks. These were cleared prior to 2004, shown in aerial photography.

The clearance areas are intended to accommodate auxillary buildings for storage/ garaging.

No detailed design plans have been provided beyond the Wilson Joubert SSR within the application. To this end this EclA addresses the available detail of the house sites and discusses the generalities of clearance and residential occupation, refined to the site environment.

Proposed house sites areas are to accommodate a necessary 10 m firebuffer replanted in low flammability native vegetation. Approx 60m of 4m wide access to proposed Lot 1 house site will include 5m fire buffer eitherside to allow retreat through the scrub. Currently clear areas will be maintained as such for additional fire safety and utility in this highly flammable kānuka mānuka dominated ecosystem e.g. main ridge access to both sites; established access to Lot 2 DP 604018 from proposed Lot 2 to allow retreat.

SITE CONTEXT

A desktop review of the available ecological site context and surrounding area in the potential zone of influence (ZOI) was undertaken. This standard EclA desktop scoping phase assists in determining priorities for field work, informed assessment of significance and targeted impact management.

TABLE 1: SITE SUMMARY

PARAMETER	DESCRIPTION
OWNER	STEVE MASON
PROPOSED LOTS	NEW RESIDENTIAL OCCUPATION- Proposed Lot 1 (8.5320ha) & Proposed Lot 2 (5.5458ha) EXISTING BUILT FORM - Proposed Lot 3 (7.1369ha)
FNDC OPERATIONAL ZONE	GENERAL COASTAL
FNDC PROPOSED ZONE	RURAL PRODUCTION
COASTAL ENVIRONMENT RPS	✓
ECOLOGICAL DISTRICT	KERIKERI
COVER	<ul style="list-style-type: none"> Broad cover of kānuka dominated scrub with regenerating shrub sapling understorey. Limited to largely unpalatable early successional species and generalists. Mānuka dominance in more recently cleared proposed Lot 1 Scattered podocarps – rimu, tānekaha, tōtara. Areas of mamaku dominance in steep gullies Kahikatea, pūriri association fringing wetland western Proposed Lot 1 exiting under Twin Coast Cycle Wayway to CMA Dominant weed component in some areas gorse, tobacco weed, wild ginger, wattle; hakea prevalent
MAPPED RIVERS ¹⁰	X
HYDROLOGICAL FEATURES	<ul style="list-style-type: none"> Adjacent the Kawakawa River Estuaru to the Bay of Islands
SOIL TYPE ¹¹	<ul style="list-style-type: none"> RAH RANGIORA CLAY (HILL COUNTRY VARIANT)
POTENTIAL ECOSYSTEM ¹²	<ul style="list-style-type: none"> WF11: Kauri, podocarp, broadleaved forest
TEC CLASSIFICATION ¹³	<ul style="list-style-type: none"> Class III - AT RISK (20-30% indigenous cover).
SNA, NORTHLAND BIODIVERSITY RANKING - TERRESTRIAL TOP 30 SITES; RANKED RIVERS; 'KNOWN WETLANDS'; TOP 150 RANKED WETLANDS ¹⁴	<ul style="list-style-type: none"> Areas of site vegetation on all Lots part of larger OPUA FOREST # P05058 Saltmarsh wetland in the CMA Proposed Lot 2 KNOWN WETLAND MAPPING
ADJACENT RANKED AREAS	<ul style="list-style-type: none"> HIGH NATURAL CHARACTER RPS UNIT #09/43 & 09/42 KAWAKAWA RIVER LOWER CATCHMENT Significant Bird Area: BOI - Kawakawa Inlet saltmarsh complex
NATURALLY RARE ECOSYSTEMS ¹⁵	-
KIWI PRESENCE ¹⁶	<ul style="list-style-type: none"> KIWI PRESENT

Although generally from broad scale mapping, requiring finer ground truthing, it may suggest potential species occurrence and associations; and underlying abiotic influences of soils and hydrology including potential wetland presence and values¹⁷.

¹⁰ LINZ 2022 NZ River Centrelines <https://data.linz.govt.nz/layer/50327-nz-river-centrelines-topo-150k/>

¹¹ <https://nrcgis.maps.arcgis.com/apps/webappviewer/index.html?id=fd6bac88893049e1beae97c3467408a9>

¹² https://services2.arcgis.com/J8errK5dyxu7Xjf7/arcgis/rest/services/Northland_Biodiversity_Ranking/FeatureServer/0

¹³ https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Habitats/lenz_tec

¹⁴ 'Top 150' most important wetlands in Northland (August 2018)

<https://localmaps.nrc.govt.nz/localmapsviewer/?map=55bdd943767a493587323fc025b1335c>

¹⁵ Williams et al (2007) New Zealand's historically rare terrestrial ecosystems set in a physical and physiognomic framework *New Zealand Journal of Ecology* 31(2): 119-128

¹⁶ DoC Mapping (2018) <https://fndc.maps.arcgis.com/apps/webappviewer/index.html?id=9691466b178d4406bcbdb4c68901ef0>

¹⁷ Values (NPS FM 2020 Amendment No.1 (2022) (i) ecosystem health; (ii) indigenous biodiversity; (iii) hydrological function; (iv) Maori freshwater values; (v) amenity values

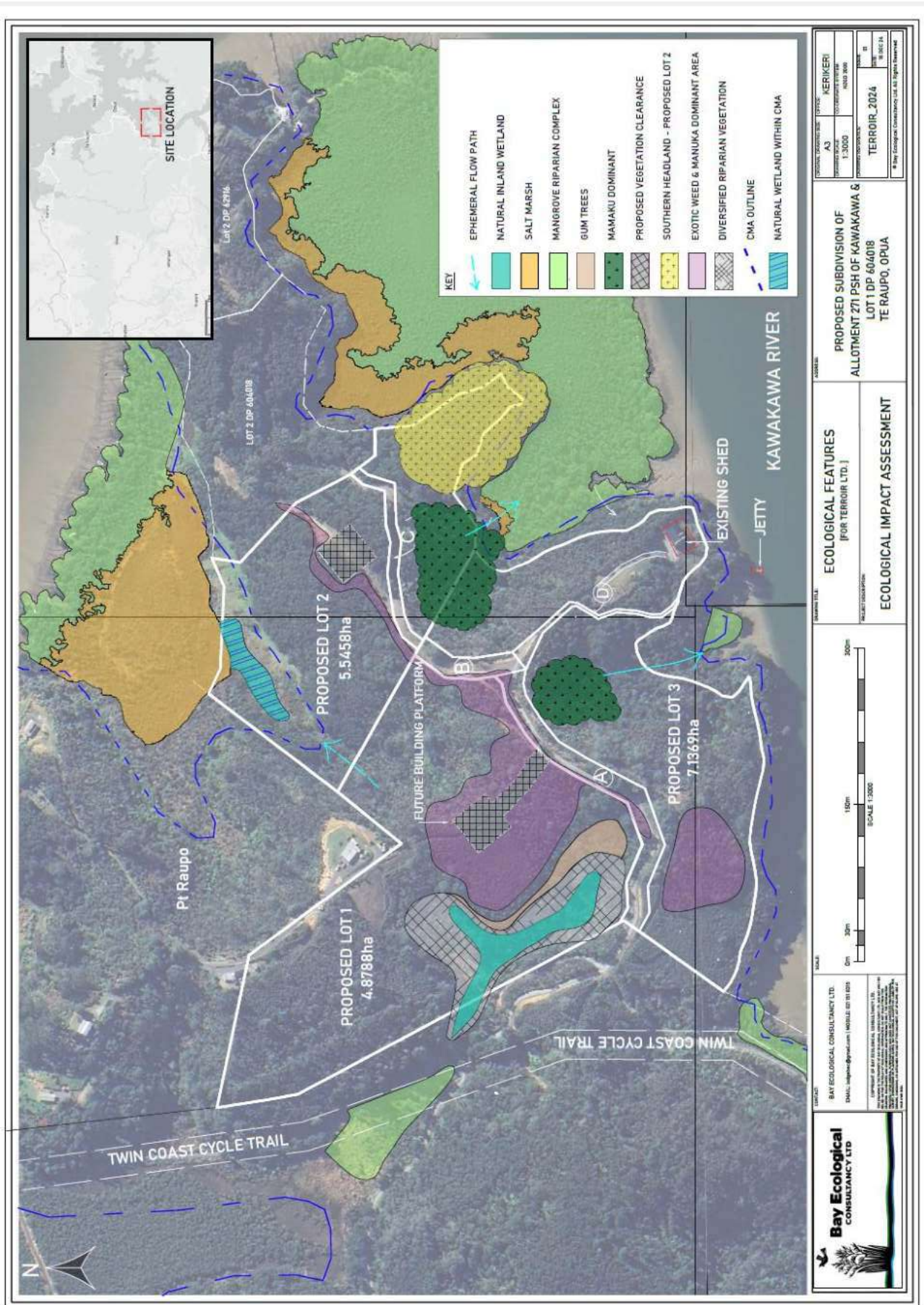
Key sources of the desktop review included:

- *Conning & Miller (1999) Natural Areas of Kerikeri Ecological District.*
- *Forester & Townsend (2004) Threatened plants of the Northland Conservancy*
- *LRIS portal <https://iris.scinfo.org.nz/>*
- *NRC Local Mapping – Leathwick (2018); Singers (2018)*
- *REC Classification <https://data.mfe.govt.nz/layer/51845-river-environment-classification-new-zealand>*
- *TEC Classification <https://ourenvironment.scinfo.org.nz/>*
- *Wildlands Consultants (2011) Ranking of top Wetlands in the Northland Region Stage 4 - Rankings for 304 Wetlands Wildlands Contract Report No. 2489 for the Northland Regional Council*
- *Wildlands Consultants (2012) Report on Wetland Guidelines for the Northland Region*

POHUTUKAWA FRINGING THE KAWAKAWA RIVER WITH REMNANT PINE AND KĀNUKA SHRUBLAND



FIG 3: SITE CONTEXT



HISTORIC AERIALS

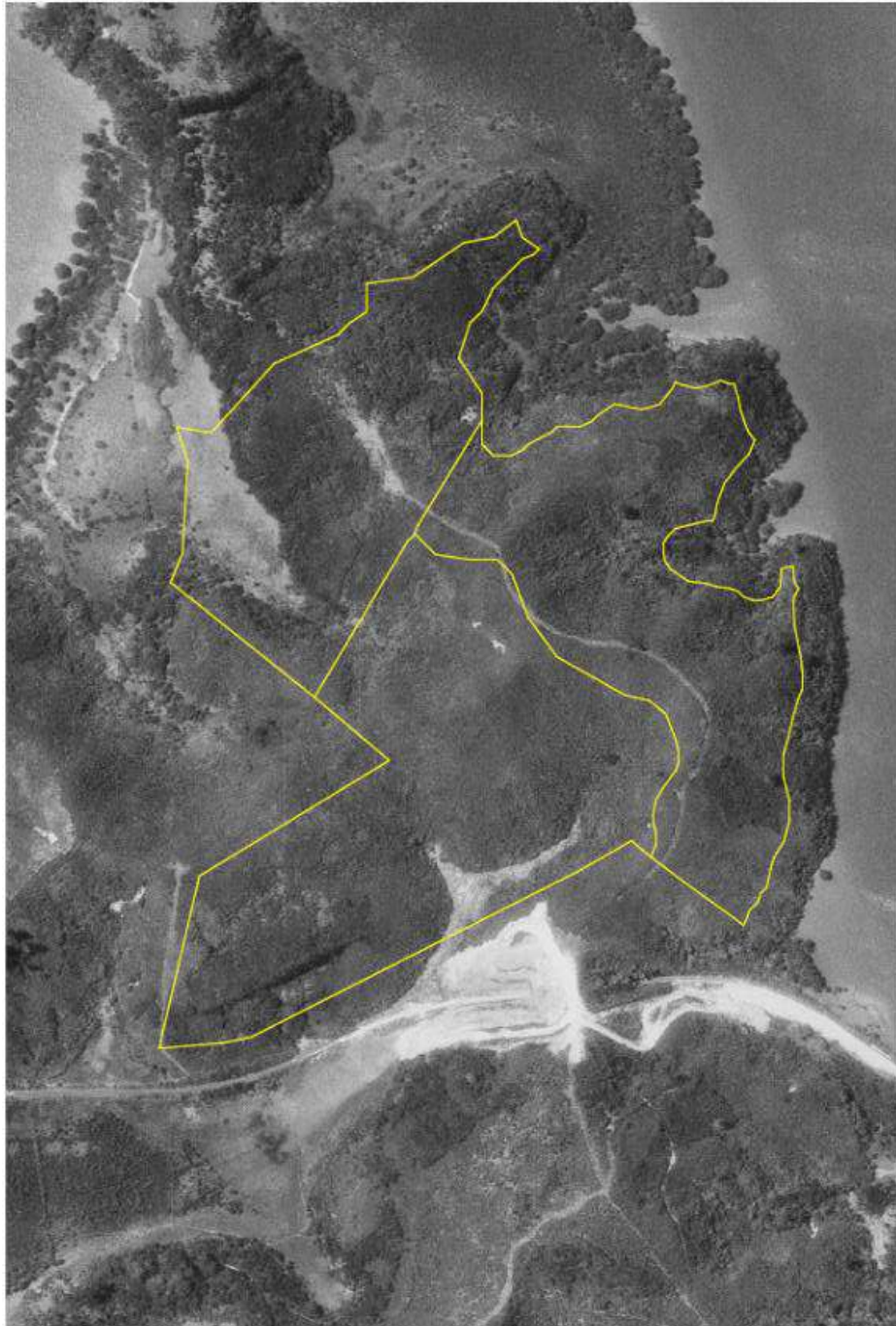
A brief review of available historic photography was made to illustrate change in cover and periodicity of site features including any wetland. Vegetation today has broadly conformed to that from 2004 with the track dating from the 1950s at least as farm access.

Grazed slopes in the 1951 aerial contrast with taller vegetation particularly on the southern headland of proposed Lot 2, currently the most intact kānuka dominant area. Review of historic topographical maps revealed no further detail.

FIG 4: 1951 RETROLENS



FIG 5: RETROLENS¹⁸ 1981



¹⁸ All Retrolens aerial photography - Sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0

FIG 6: FNDC/ LINZ 2000



FIG 7: GOOGLE EARTH 2004

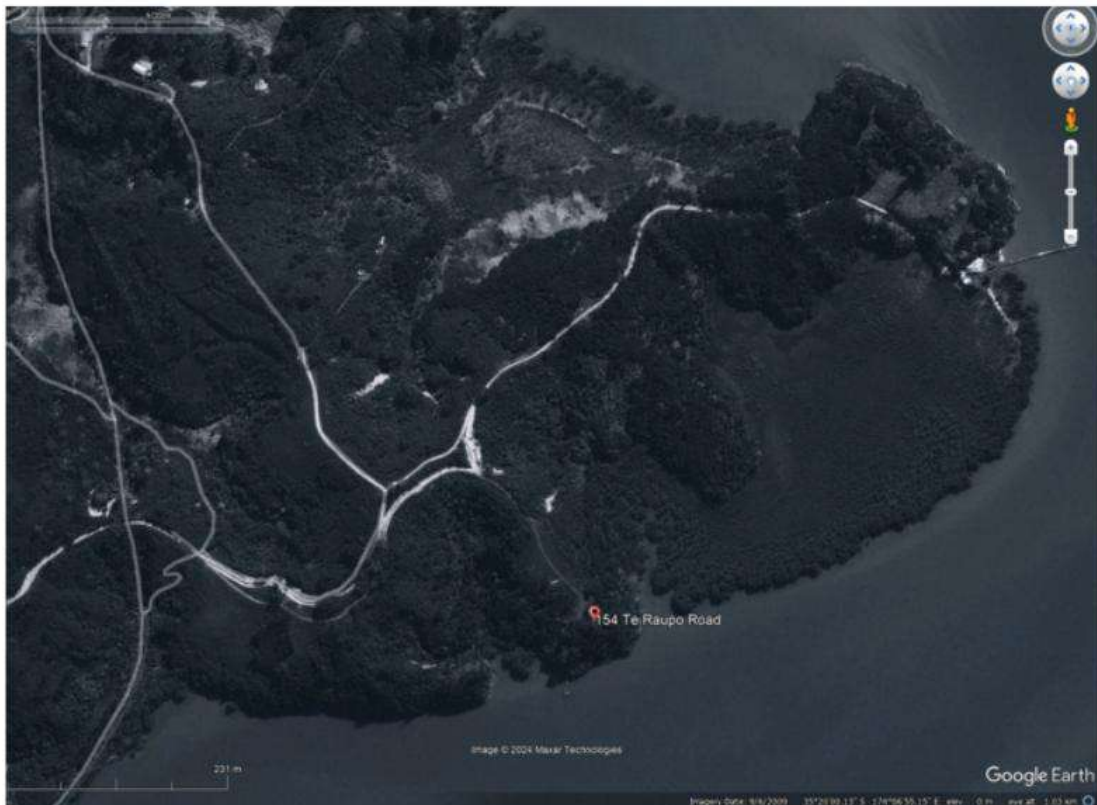


FIG 8: FNDC / LINZ 2014



SOILS

In conjunction with species associations, soil characteristics provide an indication of potential wetland presence, and may guide any scheme for post development revegetation or amenity planting. Site soils are mapped as

RANGIORA CLAY (RAH HILL COUNTRY VARIANT)

- *Mottled Albic Ultic Soil (UEM)* - E horizon immediately beneath the topsoil and a firm, clayey B horizon mottled redox layer below that.
- Mature greywacke soils of the Marua suite
- Strongly leached to weakly podzolised - generally acidic; low in natural fertility and trace elements e.g. Mg & K
- B horizon aluminium levels contribute to shallow rooting habits in sensitive plants.
- Imperfectly to (very) poorly drained - generally acidic; seasonally wet and susceptible to compaction

Site soils were inspected along tracks and cut faces during site visit and readily conformed to mapped description.

TABLE 2: MAPPED SOIL TYPE

SOIL TYPE NZRLI	SOIL TYPE FSL	DESCRIPTORS	PREDICTED FOREST TYPE
RANGIORA CLAY HILL VARIANT	UEM ALBIC ULTIC	<p>MARUA SUITE- Mature greywacke soil</p> <ul style="list-style-type: none"> • On strongly rolling to moderately steep slopes & deeply weathered greywacke • shallow E horizon with mottled redox layer beneath • Imperfectly to (very) poorly drained , seasonally wet and susceptible to pugging • Strongly leached to weakly podzolised • Dispersive surface horizons with low P retention in A & E horizons - may result in clay and P inputs to waterways when bare • Low Mg, K & P reserves. High aluminium & iron in B horizon may cause toxicity in some sensitive species. 	<p>WF11 <i>Kauri, podocarp, broadleaved</i></p>

POTENTIAL ECOSYSTEM TYPE

Broad ecosystem classification¹⁹ shows the potential vegetation type mapped as correlated with soil type and climate -**WF11 KAURI BROADLEAVED PODOCARP FOREST TYPE**.

WF11 was formerly the dominant forest type in Northland, occurring from sea level to 300 m, typically on shallow to steep hillslopes and ridges. It is the most widespread ecosystem unit but also very relictual compared to former extent. Frequently the only representation remaining is poor kānuka and mānuka dominated early successional cover on depleted soils. Recent LUC mapping²⁰ gives the Lots as **LU 1.3.3 RESIDUAL NATIVE COVER – MĀNUKA/KĀNUKA**

TABLE 3: MAPPED POTENTIAL ECOSYSTEM TYPE

ECOSYSTEM CLASSIFICATION	TYPE DISTRIBUTION	TYPE DESCRIPTION
WF11 KAURI PODOCARP BROADLEAVED FOREST	<i>Warm climatic zone from the Three Kings Islands and Te Pahi south to Mahia and New Plymouth.</i>	<ul style="list-style-type: none"> • <i>Kauri, podocarp, broadleaved forest with occasional rimu, miro, kahikatea, kauri, taraire, tawa, tōwai, kohekohe, pūriri and rewarewa.</i> • <i>Drivers of composition are fertility, drainage and altitude</i> • <i>Altitude variants - taraire and kohekohe more abundant at lower altitudes, and tawa and tōwai more common at higher altitudes.</i> • <i>Broadleaved species in gullies</i> • <i>Commonly a secondary derivative of kauri forest</i> • <i>Rainfall 1000–2500mm.</i>

VALUES MAPPING

NRC WETLANDS & BIODIVERSITY RANKING

The NRC *Known Wetlands* layer illustrates saltmarsh extending into proposed Lot 2, as before. Ground truthing found it extended further, within the low contour still in the CMA, with oioi, *Juncus kraussii subsp. australiensis* edged by swamp character of *Machaerina*, raupō and *Isachne globosa* fed by freshwater seepage from the western gully. It grades with slight elevation into dense salt tolerant kikuyu, gorse, knobby club rush (FACU; *Fincinia nodosa*) and scattered mānuka, then into the kānuka dominant extent site cover. The NRC Biodiversity Terrestrial Ranking Top 30% +5²¹ Unit #1059 is broadly mapped over this and is likely intended to capture the broader extent on the site boundary.

¹⁹ Singers & Rogers (2014) A classification of NZs terrestrial ecosystems. DoC Wellington

Singers, N. (2018) A potential ecosystem map for the Northland Region: Explanatory information to accompany the map. Prepared for Northland Regional Council.

²⁰ Manaaki Whenua Landcare (2023) Northland Landuse Information Classification v1.0 layer for NRC

²¹ This layer identifies the top 5 % of additional High priority terrestrial sites, that would potentially make the largest additional gains assuming management is applied to the top 30% of sites as identified in the ranking of terrestrial ecosystem areas derived from a ranking analysis of indigenous-dominated terrestrial ecosystems for the Northland Region.

FIG 9: NRC KNOWN WETLAND PROPOSED LOT 2



The mapped saltmarsh overlay is also designated *Proposed Far North District Plan High Natural Character Unit #HNC505* and NRPS (2018) *High Natural Character Unit #09/43*, the underlying assessment of which may be considered as a surrogate guide for ecological aspects to consider in terms of significance. RPS HNC Unit # 09/42 & PDP Unit #HNC 509 adjoin the marginal strip adjacent proposed Lots 3 & 2, not extending onsite. These are also captured by NRC Biodiversity Terrestrial Ranking Top 30% +5²² Unit #1076 (32%).

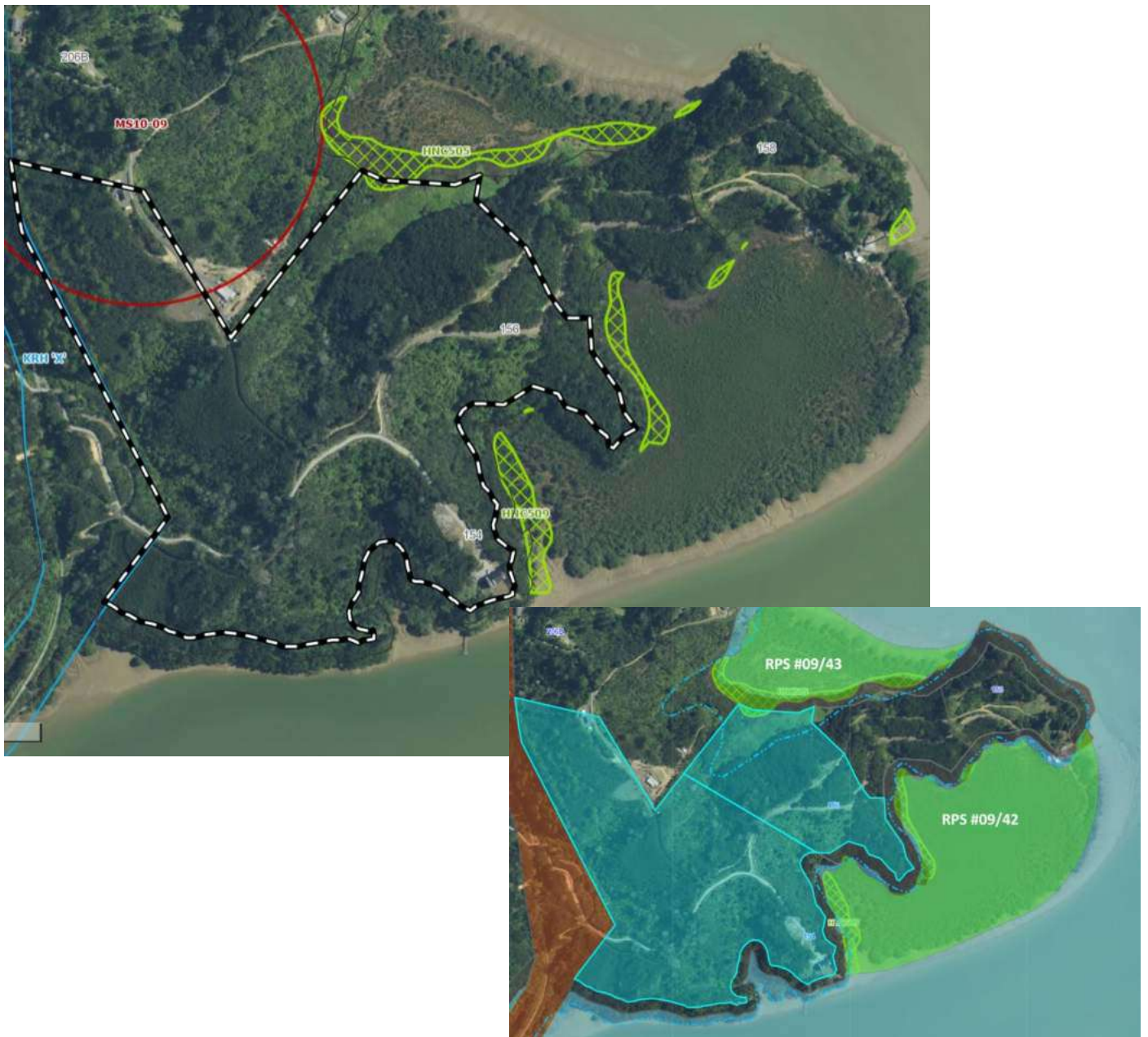
Values are given in the documentation for the units as:

TABLE 4: HIGH NATURAL CHARACTER UNIT VALUES

#09/43 & #505	#09/42 & #509
<i>Mangroves with some saltmarsh & intertidal flats inland</i>	<i>09/42 Mangroves on the true left bank on the Kawakawa River on an inside bend with some intertidal flats & saltmarsh inland</i>
<i>Indigenous vegetation without pest plants (mangroves & saltmarsh).</i>	<i>Indigenous vegetation without pest plants (mangroves) and relatively close to present potential cover for site conditions.</i>
<i>Part of a continuum of marine to terrestrial ecosystems.</i>	<i>Part of a continuum of marine to terrestrial ecosystems.</i>
<i>Few obvious human structures</i>	<i>Few obvious human structures</i>

²² This layer identifies the top 5 % of additional High priority terrestrial sites, that would potentially make the largest additional gains assuming management is applied to the top 30% of sites as identified in the ranking of terrestrial ecosystem areas derived from a ranking analysis of indigenous-dominated terrestrial ecosystems for the Northland Region.

FIG 10: PROPOSED FNDP HNC & RPS HNC DESIGNATIONS



The onsite extent of #09/43 & #505 shows alignment with values listed. Amenity and landscape are considered primarily the scope of the Visual Impact Assessment. However, the site proposals do not compromise the **ecological** aspects, including those in the *High Natural Character* values, of the Kawakawa Marginal Strip adjacent the site designated as *Proposed District Plan Natural Open Space* or current *District Plan Conservation zone*. Pest and weed management is an extant consideration in the management of any site and achievable through consent conditions, bolstering HNC values. The proposed clearance sites are sited well separate from contributing site hydrology, which is considered to be protected by best practice stormwater management and adherence to the NES-F (2020) protective regulations.

There are no mapped seagrass beds proximate to the shore, vulnerable to sediment inputs from land activities.

PNA MAPPING

There are currently no FNDC *Significant Natural Areas* (SNAs) as per the *National Policy Statement for Indigenous Biodiversity (2023)*, subject to *Subpart 2 Clause 3.10*. However as per *Subpart 2 Clause 3.16*, significant adverse effects on indigenous biodiversity outside of such areas in regard to new subdivision, development or use must be managed by applying the effects management hierarchy.

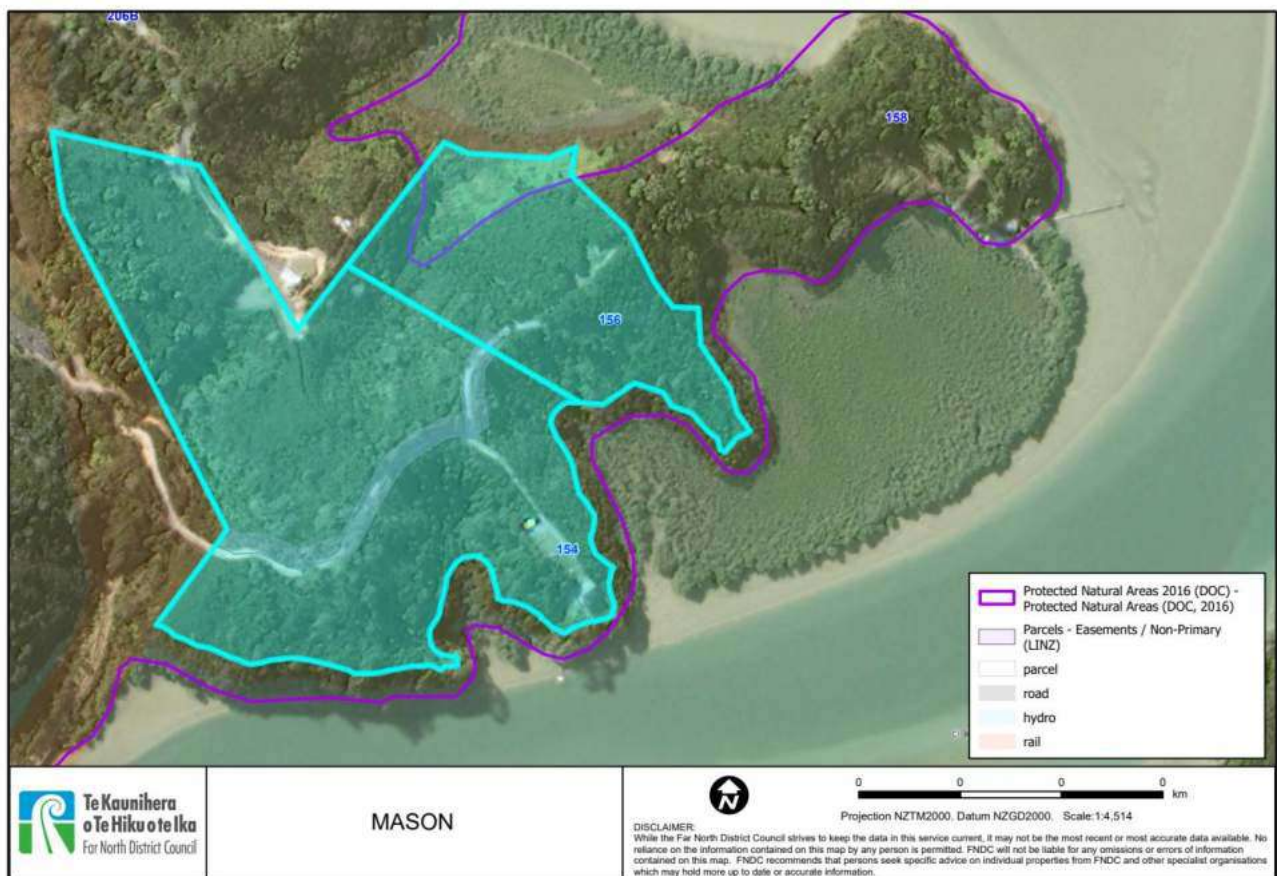
The site is subject to DoC PNA mapping, again proxy for potential ecological significance, serving to direct fieldwork. The site is encompassed entirely in the large and broadly mapped Opuā Forest PNA (#Q05/004)²³. Documented values of the far wider unit are compared as below:

TABLE 5: OPUA FOREST PNA (#P05/058)

<p style="text-align: center;">OPUA FOREST PNA (# P05/058) SURVEY DATE FEB 1995 4294.1 ha/ 0–236 m asl</p>	<p style="text-align: center;">SUBJECT SITE</p>
<p>Steeply dissected inland and coastal hill country of Waipapa Group greywacke and chert, adjoining estuarine areas of the Kaipatiki Creek, Haumai River and the Whangae River. Freshwater wetlands are present along tributaries of the Kaipatiki River.</p>	<p>YES</p>
<p><i>The significance of this forest lies in its large size, coastal influences and mosaic of vegetation types including freshwater and saltwater ecotones and sequential gradients from sea level to over 230 m asl. It is a representative site for all vegetation types present.</i></p>	<p>Part of the wider PNA the site contributes to the extent of the unit. Sequential gradients and ecotones are present as given Site is highly weed/ pest influenced</p>
<p><i>A representative site for</i></p> <ul style="list-style-type: none"> a) <i>Towai-taraire forest on hillslope</i> b) <i>Towai-taraire- tōtara forest on hillslope</i> c) <i>Kauri forest on hillslope</i> d) <i>Mānuka-kānuka -towai forest on hillslope</i> e) <i>Mānuka-kānuka -tanekaha forest on hillslope</i> f) <i>Mānuka-kānuka shrubland on hillslope</i> g) <i>Five finger-mamaku tree fern shrubland on hillslope</i> h) <i>Raupō reedland in swampy gullies</i> 	<p>The site contains representation of :</p> <p>Type F in a spectrum of condition, highly impacted with exotic weeds to secondary character establishing Type G present in steep gullies proposed Lots 2 & 3 wild ginger degraded Type H small areas present in northern gully wetlands proposed Lots 1 & 2</p>
<p><i>The major national stronghold of the rare <i>Pittosporum pimeleoides</i> subsp. <i>pimeleoides</i> <i>Ileostylus micranthus</i> (Green mistletoe, <i>pirita</i> Not Threatened; Regionally Uncommon) on <i>Coprosma</i>..</i></p>	<p>None found in clearance areas or wider search but may be present</p>
<p><i>AVIFAUNA -NI brown kiwi (Conservation Dependand) and several pairs of pateke (Threatened – Nationally Increasing). NI weka (At Risk – Relict); pārera (grey duck <i>Anas superciliosa</i> Threatened -Nationally Vulnerable), reef heron (Threatened -Nationally Endangered), kukupa (Conservation Dependand), NI fernbird (At Risk – Declining), banded rail (At Risk – Declining), spotless crane (At Risk – Declining), pukeko, white-faced heron, NZ kingfisher, and common forest birds.</i></p>	<p>KIWI PRESENT zone Weka not encountered onsite Majority of vegetation kānuka dominated lesser food source for kukupa Fernbird present potential for banded rail & spotless crane recorded nearby Kingfisher & common insectivorous guild present</p>
<p><i>Opuā Forest the southern limit for endemic Northland green gecko (<i>Naultinus grayi</i>), which hybridises with the more common Auckland green gecko (<i>Naultinus elegans elegans</i>)</i></p>	<p>Potential in shrubland, however predation likely including by indigenous avifauna & uncontrolled pest population</p>

²³ Conning & Miller(1999) Natural Areas of the Kerikeri Ecological District. Reconnaissance Report for the Protected Natural Areas Programme. DoC Whangarei

FIG 11: PNA MAPPING (CONNING & MILLER 1999)



Habitat is present for *Pittosporum pimeleoides* subsp. *pimeleoides*, usually associated with secondary regrowth coastal shrubland, along ridge lines and in seral vegetation caused by past fires, slips or other natural or human-induced disturbance mechanisms. The type specimen was collected from the area by the Kawakawa River in 1869, preserved in the Te Papa herbarium, however the location is obscured. None was found in or adjacent the development areas.

The reporting describes *dwindling numbers of weka at Opua*, however Mr Mason has never encountered these obvious and curious birds. None were encountered or heard during site visits. Pied tit (*toitōi Petroica macrocephala*) described as present are considered *Regionally Significant* and specific consideration was given to their presence during fieldwork, without success. Small insectivores are vulnerable to rat predation of nests and cats.

There are local recorded sightings of wetland species spotless crane (*At Risk -Declining*) and banded rail (*At Risk – Declining*). Banded rail are largely restricted to saltmarsh and mangrove in the North Island. They feed under mangrove cover as the tide recedes and otherwise in rushes, tall grass and shrubland in the upper reaches of estuaries, as present on site, proposed Lot 2.

Although contributing as extent, the sites representation of high potential values listed in the documentation are subdued by pest and heavy weed influence.

SPECIAL BIRD AREA (SBA) & AUSTRALASIAN BITTERN HABITAT

The CMA is included in a PNRP Special Bird Area: *BOI - Kawakawa Inlet saltmarsh complex*. This unit includes several inlets extending well inland, with varying levels of buffering. Much of the adjacent land is farmed, but there are increasing areas of shrubland recovery as onsite. Extensive mangroves are more common but most have little saltmarsh. The ecological significance is *Moderate-High* given the local importance and available habitat for some species.

This layer is broad and can capture the majority of the CMA in each harbour and estuary.

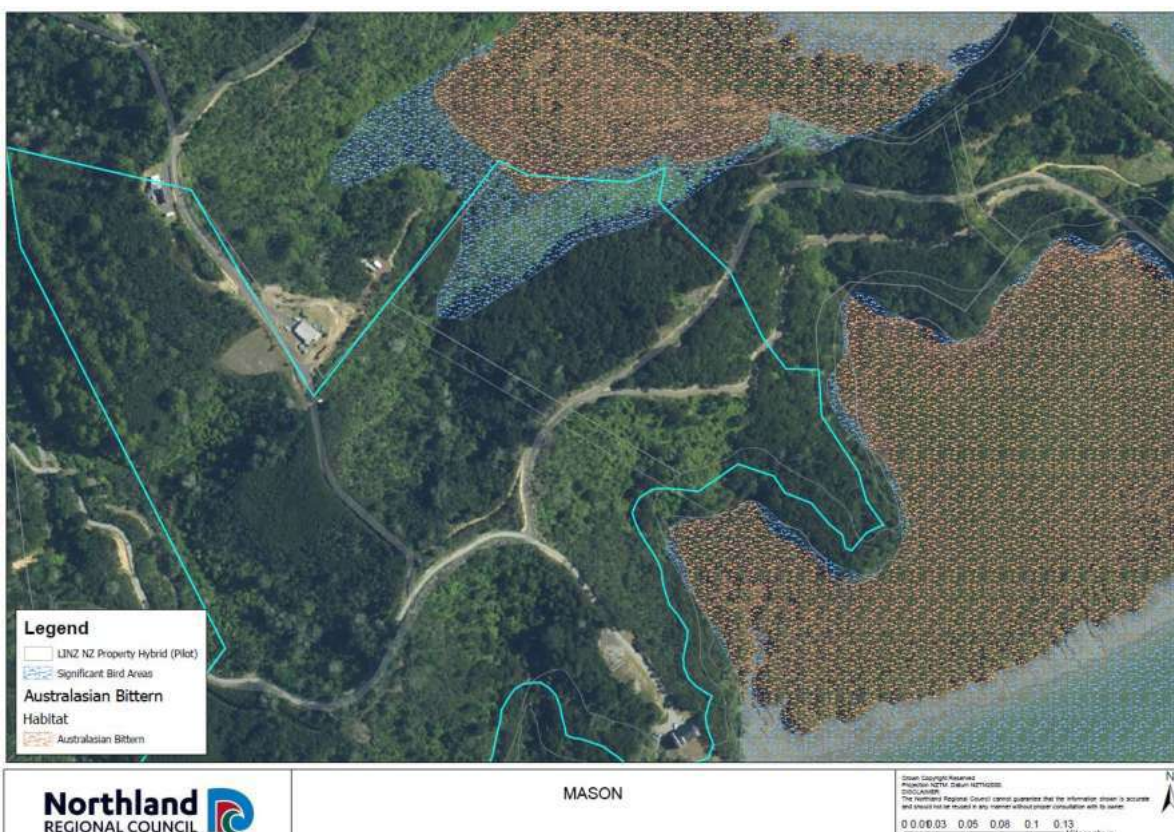
There is proximate PRP *Critical Bird Habitat Mapping- Australasian Bittern* (Matuku-hūrepo; *Botaurus poiciloptilus Threatened – Nationally Critical*). This is a recent simplified rendering comprising areas where an existing SBA overlaps with saltmarsh and mangrove mapping, for bird species identified as *Threatened to Nationally Critical* in the NZ threat classification system.

Bittern are extremely cryptic, rarely seen and evidence of CMA habitat use is limited²⁴. They have been recorded in the wider area and personally sighted to the landward edge of Russell Whakapara Rd in raupō. As visual feeders they require areas or runs of open water in wetland for some components of a wider diet. They are primarily reliant on inland freshwater habitat with preferred tall rush/ sedge habitat for nesting and concealment. As a freshwater bird they have a limited tolerance of highly saline conditions.

The northern area adjacent and encroaching to Lot 2 with freshwater raupō habitat is likely more suitable habitat compared to the mangrove dominant area to the southeast on the river. However, bittern are strong fliers and known to have a seasonal territory of up to 15km radius.

Their major threat is habitat destruction. None is proposed. Adults are large²⁵ and capable of defence however eggs and chicks are vulnerable to predators. Pest/ pet control is pertinent to protect any visiting or resident bird.

FIG 12: SIGNIFICANT BIRD AREA KAWAKAWA INLET & BITTERN HABITAT



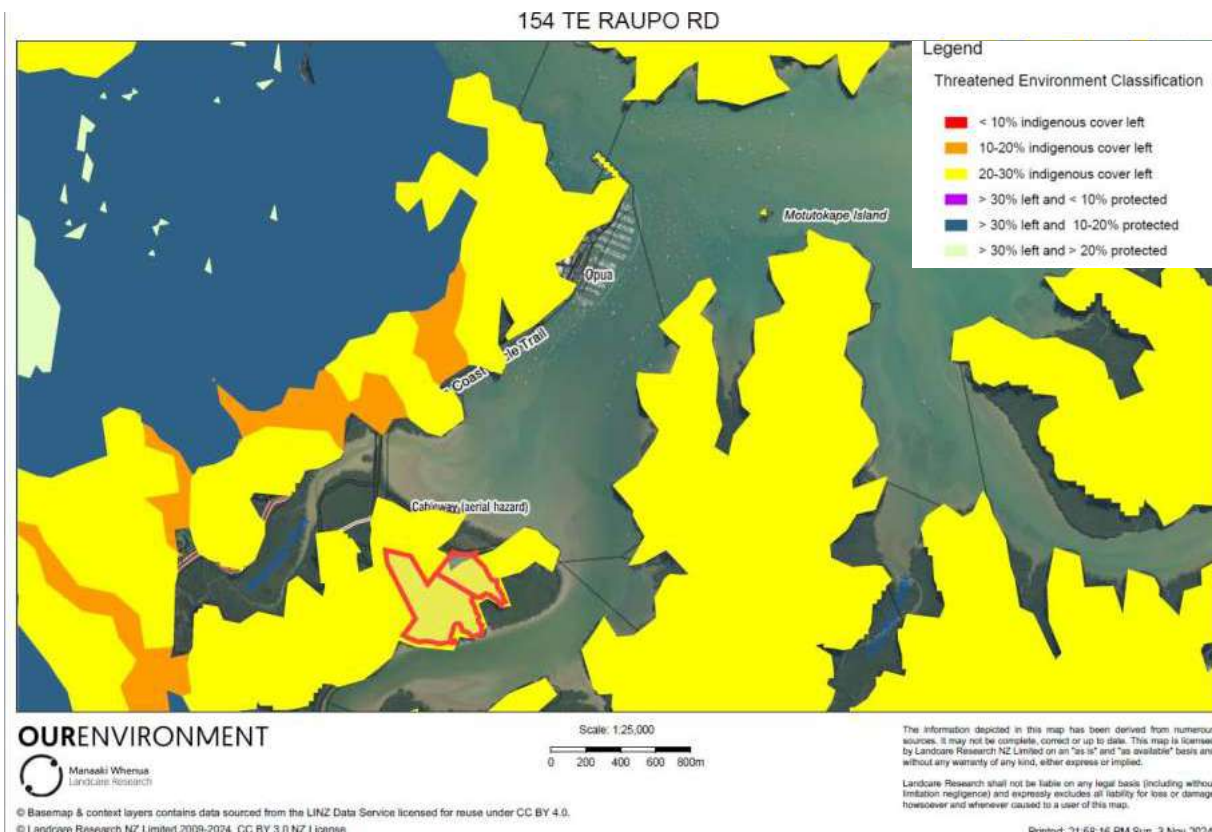
THREATENED ENVIRONMENT CLASSIFICATION (TEC)

The TEC is resultant from the combination of several broad databases²⁶, most appropriately applied to help identify priorities for formal protection against clearance and/or incompatible land-uses, and to restore lost linkages and buffers. The first two classes have been incorporated into national and regional policy to address biodiversity protection on private land²⁷ and as a measure of significance of any site vegetation. These are not present onsite, rather the Lots are mapped as

- Level III At Risk (20-30% Indigenous Cover Remains).

Local indigenous vegetation and habitats of the type are considered less reduced and fragmented than the first two categories, but lacking legal protection, indicating protection to be beneficial in the wider landscape. This designation is likely influenced by the extant cover in the surrounding landscape, including Opuia, Tikitikiore & Russell Forest natural areas.

FIG 13: TEC CLASSIFICATION



²⁶ Threatened Environment Classification (2012) Landcare Research Manaaki Whenua. Based on Land Environments New Zealand (LENZ), classes of the 4th Land Cover Database (LCDB4, based on 2012 satellite imagery) and the protected areas network (version 2012, reflecting areas legally protected for the purpose of natural heritage protection).

²⁷ Northland Regional Policy Statement 2018 Appendix 5; Land Environments New Zealand Level VI; Land Cover Database 4 (2012); Protected Areas Network (2012) **Acutely Threatened** (<10% Indigenous Cover remains); **Chronically Threatened** (10-20% Indigenous Cover remains); **At Risk** (20-30% Indigenous Cover Remains); **Critically Underprotected** (>30% cover, <10% protected); **Underprotected** (>30% Indigenous cover remains, 10-20% protected); **Better Protected** (>30 indigenous cover, >20% protected)

SITE VISIT

TERRESTRIAL VEGETATION

A comprehensive site visit was made on the 20th September 2024 with specific regard to the proposed scheme, aerial photography and desktop review. Walk through visual vegetation survey was undertaken to characterise the site associations and habitat for significance and to confirm wetland presence.

From professional experience of the wider peninsula, the kānuka dominated associations of varying integrity are principal local ecosystems, of a similar cohort due to reversion of historic pastoral conversion prior to the 1950s.

The landscape pattern observed today comprise a secondary derivate of the predicted **WF11 Kauri podocarp broadleaved type**, kānuka dominant with the substorey associations influenced by moisture, aspect, edge effects and subdued by temporal layers of repeated clearance and pest influence. Although a larger example, the composition is simple in terms of biodiversity. Better condition is found in areas with longer periodicity. Site vegetation may be expected to evolve over decades with a contribution of natural regeneration supported by local seed source, continued pest and weed control. However, continued weed influx demonstrates this is not a guaranteed outcome.

The onsite expression is more closely aligned with a spectrum of *ecosystem types OF1 Kānuka forest & tall shrubland* to lesser diversity in drier/ exposed areas of *AS1 Kānuka shrubland & native shrubs*.

TABLE 6: CURRENT REFINED SITE ECOSYSTEM TYPES

ECOSYSTEM CLASSIFICATION	TYPE DISTRIBUTION	TYPE DESCRIPTION
AOF1 KĀNUKA FOREST AND TALL SHRUBLAND	<i>NORTH OF 39°S Lowland areas from sea level to 500 m Moderate species richness average 41 -17 trees species -exotics prominent average 19% of total species richness</i>	<ul style="list-style-type: none"> • dominant kānuka • Diagnostic Co-occurrence of <i>Cyathea dealbata</i>, <i>Doodia australis</i> and <i>Kunzea ericoides</i>. • understorey of <i>Coprosma rhamnoides</i>; mahoe; mingimingi(<i>Leucopogon fasciculatus</i>); hangehange (<i>Geniostoma ligustrifolium</i>) & silver fern (<i>Alsophila tricolor</i>) mamaku <i>Sphaeropteris medullaris</i> • ground layer bracken, <i>Uncinia uncinata</i>, <i>Oplismenus imbecillis</i>, <i>Blechnum novae-zealandiae</i>, <i>Dianella nigra</i>, <i>Microlaena stipoides</i>, <i>Lotus pedunculatus</i> and occasional <i>Doodia australis</i>; <i>Cirsium</i>; <i>Prunella vulgaris</i>
AS1 KĀNUKA SHRUBLAND	<i>NORTHERN HALF OF THE N.I, SI NORTH OF WAITAKI RIVER Wide elevational range, from just above sea level to 1000 m Moderately low species richness average 27 species 14 % (5 species) exotic</i>	<ul style="list-style-type: none"> • SHORTER STATURE SHRUBLAND DRIER & LESS DIVERSE THAN OF1 WITH NATIVE SHRUBS • dominated by kānuka canopy • shrubs <i>Coprosma rhamnoides</i>, <i>Leptecophylla juniperina</i> and <i>Leucopogon fasciculatus</i> frequent. <i>Kunzea ericoides</i> is the only indicator species • AS3 Kānuka shrubland most degraded form or early successional with grasses
MAMAKU- SILVER FERN²⁸	<i>SLIP FACES DISTURBED SOIL HIGH IRRADIANCE EDGES & CANOPY GAPS STEEPER DAMPER AREAS THAN OF1 or AS1</i>	<i>Monoculture of mamaku shade intolerant canopy Long lived (250yrs) high density silverfern subcanopy Associated with regeneration of dominated by shade-tolerant larger leaved broadleaved communities e.g.taraire pūriri kohekohe and shade tolerant miro</i>
VS4 MĀNUKA SCRUB	<i>Flat to steeply sloping Sealevel to 1000m Previously burnt / cleared Low richness 6-18 species 10% exotic</i>	<i>On average stands are 3 m tall Mānuka scrub of a range of variants. Early seral state Later successional transitions include a wide range of broadleaved and podocarp trees, and tree ferns, as well as different assemblages of invasive herbs, shrubs and trees.</i>

²⁸ Brock, J. et al (2018) Pioneer tree ferns influence community assembly in northern New Zealand forests NZIE 42(5)

Site cover aligns with several common types in the PNA documentation as expected. Kānuka /mānuka shrubland is the most common and widespread type at both inland and coastal sites, and can be found throughout the Ecological District. Coastal types commonly include tolerant successional species tōtara, tanekaha, towai, mamaku and rimu at low density that can tolerate high irradiance, dry sites.

Tānekaha and tōtara typically fill the dominant podocarp niche where kauri seed source has been lost, as onsite, often associated with historic burning. Although unpalatable, they provide territorial space and possum nesting trees allowing greater density, which may then browse the associated broadleaved component in gullies. Podocarps are scattered individuals outside a ZOI of the clearances areas, which have been deliberately sited in that regard.

There are no regenerating kauri 'ricker' stands, or a high stocking of young kauri. None are considered in proximity to any proposed works.

The exotic component is frequent throughout, amongst largely unpalatable short stature pioneer species beneath the senescing kānuka canopy, including previously cleared areas nominated for development in the current proposal. Adjacent accessways and mānuka scrub in more recently cleared areas are heavily weedy – in particular with woody hakea, wattle and gorse which may have established concurrently.

Regeneration and diversity under the kānuka dominant canopy remains commonly unpalatable species at the seedling and sapling layer. More palatable species are naturally abundant pioneers e.g. *Coprosma robusta*; *Geniostoma*. Height and biodiversity are greatest within the older vegetation on the southeastern headland of proposed Lot 2 and within the riparian border of the northern wetland gullies. Within the kānuka dominated canopy of the headland, tānekaha and tōtara are scattered with pigeonwood, *Olearia*, *Coprosma* and fern diversity, mahoe; matipo; frequent hangehange and silverfern; mingimingi, scattered karo, *Pommaderis* and several rimu. In the gullies the broader diversity reflecting shelter and moisture elevated by the topography- higher *Coprosma* diversity; mahoe; *Pseudopanax*; individual pūriri & nikau; mamaku; kiokio; shining spleenwort; *Sticherus*; hounds tongue; maidenhair ferns.

PROPOSED LOT 2 SOUTHERN HEADLAND



Localised mamaku dominant type occupies a smaller extent, a steeper damper gully heads above the intermittent southern gullies, reflecting the original regeneration post 1950s, typically a natural occurrence in steeper areas of high irradiation. Its tight, persistent canopy cover, may persist longer than that of a kānuka pioneer scenario as an alternate succession pathway. However, wild ginger is a prevalent co occurrence as dense understorey and a priority for control to allow any regeneration of a secondary component. .

Ground cover consistently comprises *Gleichenia microphylla*; *Gahnia*; *Morelotia*; *Schoenus tendo* suggesting the poor or shallow clay subsoil. Grasses *Oplismenus hirtellus subsp. imbecillis* & *Rytiosperma spp* are common, as typical for kānuka habitats, along with ubiquitous ground cover species *Uncinia uncinata*, *Dianella nigra*, *Microlaena stipoides*; *Carex spp*; and mosses. *Doodia australis* (rasp fern) is a site wide prevalent species. Other common local ferns are present scattered- *Parablechnum novae-zealandiae*; *rosy maidenhair (Adiantum hispidulum)*; *Doodia australis*; *Sticherus*; *Hypolepsis ambigua* hounds tongue with occasional huruhuruwhenua (*Asplenium oblongifolium*).

Specific search for potential *Threatened*; *At Risk* and *Uncommon* species identified from desktop review (published herbarium records; Opua PNA documentation) including *Pittosporum pimeliodes* and professional expectation was made, unsuccessfully. There is no distinct coastal forest association, with individual shoreline pōhutukawa as only a muted representation.

Wild ginger, gorse; hakea; black wattle; privet, tobacco weed, Aristeia; sweet pea bush (*Polygala mytifolia*) and pampas are key site weed species, present frequently within open cover along accessways and more recently cleared areas. Tall stature gum and pine dating pre 1980 are also throughout, planted and self propagated. Gorse seed can continue to germinate from soil seed bank for up to 50 years and will likely be an ongoing weed in light gaps. Tobacco weed will also spread in shade. Within dense indigenous cover weeds were minimal. Notably we did not encounter obvious *Tradescandia* or mothplant infestation. With moisture and shade toward lower elevation and in gullies; wild ginger is the priority weed.

The two clearance areas for proposed Lots 1 & 2 are accessed by separate tracks off the main driveway that previously serviced the parent parcel prior to subdivision of Lot 2 DP 62916 & Lot 2 DP 604018. These are now accessed by easements Area A & B DP 604018 and the Lot 2 house site straddles the prior track. Positioning of the envelopes has considered their reduced representation of site vegetation; in clear or open, exotic weed and manuka edge cover. They are outside of any critical source area to receiving aquatic environments with minimal requirement for further access works.

Larger stature podocarps have been avoided and no rare individual flora species are recorded or observed within them.

The species adjoining the clear areas are seral with some exotic dominance of gorse, tobacco weed, hakea and wattle. This scenario is unlikely to be successional to podocarp or broadleaved dominated forest without intervention, unable to recover a broader regenerative association beyond unpalatable dominance at all tiers due to pest influence, lack of seed source, dispersers and low fertility soils further degraded by historic use.

TABLE 7: PROPOSED CLEARANCE AREAS

CLEARANCE AREAS	DESCRIPTION
HOUSE SITE PROPOSED LOT 1	<ul style="list-style-type: none"> • Thin & open seral mānuka scrub bisected by open track • Understorey highly sparse largely unpalatable & frequent exotics at all tiers • No podocarps in clearance area
HOUSE SITE & ACCESS PROPOSED LOT 2	<ul style="list-style-type: none"> • Clear with AS1 Kānuka shrubland at edge of lower envelope • shrubs <i>Coprosma rhamnoides</i>, silverfern and <i>Leucopogon fasciculatus</i> mapou and hangehange but understorey is open • No large broadleaves or podocarps in clearance area • Open exotic herbaceous & grass areas

BELOW PROPOSED LOT 2 HOUSE SITE TO THE NORTH KĀNUKA WITH HANGE HANGE ARISTEA GORSE BRAKEN AND SILVER FERN



**PROPOSED HOUSE SITE LOT 2: OPEN WITH SOME DECREPIT KĀNUKA POMADDERIS SILVER FERN MAPOU ;
EXOTICS- WILD GINGER ;PAMPAS ;TOBACCO WEED; HAKEA; GORSE; ARISTEA ABUNDANT**



PROPOSED LOT 1 TRACK EXISTING, ARISTEA GORSE & PAMPAS; HOUSE SITE OLD TRACK WITH SHORT 3m MĀNUKA GORSE PAMPAS TOBACCO WEED PREVALENT; BARE UNDERSTORY WITH ARISTEA AND GORSE SEEDLINGS, HAKEA CANOPY DOMINANCE IN SOME AREAS



MĀNUKA PROPOSED LOT 1 HOUSE SITE WITH HAKEA AND GORSE THROUGHOUT



ACCESS TRACK ARISTEA & PAMPAS DOMINANT WITH POMADDERRIS AND SEEDLING KĀNUKA



**VIEW EAST OVER MAMAKU GULLY TO PROPOSED LOT 2 HEADLAND OF HIGHER DIVERSITY KĀNUKA COVER;
KĀNUKA 8m WITH TANEKAHA; MAHOE; PIGEONWOOD ; MATURE TANEKAHA; SAPLING LAYER INTERMITTANTLY
OPEN**



PROPOSED LOT 2 SOUTHERN HEADLAND BROADER DIVERSITY- GAHNIA BELOW HAKEA; COPROSMA RHAMNOIDES & MAPOU UNPALATABLE SEEDLING REGENERATION; SCATTERED RIMU; MATAI SEEDLING; MANGROVES ADJACENT KAWAKAWA RIVER WITH FREQUENT PINE & GUM ONSHORE AMNGST KĀNUKA DOMINANT COVER



HYDROLOGY

Unmapped²⁹ ephemeral flow is present in gullies in proposed Lot 1 & 2, emerging as seepage and providing tributary directly to the CMA on the steeper southern coast gullies or wetland in the gentler contour to the north of the central access.

Within the seepage gullies vegetation is more diverse, with larger broadleaves and mamaku dominant areas, reflecting variation in moisture and protected from earlier clearance and fire by topography as typical. However, the weed component continues to be extant. Mature gums are present at the head of the western gully Lot 1.

SOUTHERN GULLY EPHEMERAL WATERWAY PROPOPOSED LOT 2. BARE DEPRESSED PATH; WATER POOLED TOWARD THE BOTTOM OF SLOPE; SCATTERED CAREX SECTA SHORTLY PRIOR TO EXIT TO SALTMARSH IN BACKGROUND BEYOND



SITE WETLAND

Site investigation has been undertaken specifically with regard to the presence or otherwise of *natural inland wetland*, as defined in the National Policy Statement for Freshwater Management (NPS -FM2020) and subject to the protective regulations within the National Environmental Standards for Freshwater (NES-F 2020). We are not aware of any previous reporting on site wetland.

The definition of **wetland** is given in the Resource Management Act (1991):

Wetland includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals adapted to wet conditions.

²⁹ LINZ 2022; REC V2 2020

Plants adapted to live in wetland conditions as above are defined in three categories –

- **OBL:** Obligate. Almost always is a hydrophyte, rarely in uplands (estimated probability >99% occurrence in wetlands)
- **FACW:** Facultative Wetland. Usually is a hydrophyte but occasionally found in uplands (estimated probability 67–99% occurrence in wetlands)
- **FAC:** Facultative. Commonly occurs as either a hydrophyte or non-hydrophyte (estimated probability 34–66% occurrence in wetlands)

(Clarkson, B. et al 2021)

Identification and dominance of these species in vegetation forms the basis for diagnosis as wetland and has been incorporated into the NPS –FM (2020). To this end, both exotic and native species have been categorised by NZ experts in supporting documentation.

The NPS – FM (2020) & accompanying regulations of the NPS- F (2020) have recently been amended³⁰, incorporating an updated definition of *natural inland wetland* as subject to the *NES F (2020)* as below, providing exclusions of some classes of wetland as per the broader RMA definition:

Natural inland wetland means a wetland (as defined in the Act) that is not:

- (a) in the coastal marine area; or
- (b) a deliberately constructed wetland, other than a wetland constructed to offset impacts on, or to restore, an existing or former natural inland wetland; or
- (c) a wetland that has developed in or around a deliberately constructed water body, since the construction of the water body; or
- (d) a geothermal wetland; or
- (e) a wetland that:
 - (i) is within an area of pasture used for grazing; **and**
 - (ii) has vegetation cover comprising more than 50% exotic pasture species (as identified in the National List of Exotic Pasture Species using the Pasture Exclusion Assessment Methodology (see clause 1.8); **unless**
 - (iii) the wetland is a location of a habitat of a threatened species identified under clause 3.8 of this National Policy Statement, in which case the exclusion in (e) does not apply

Under these updates, Regulation (e) (i) & (ii) only apply while a site is in active pastoral use, and not once its purpose changes³¹. The planning application is for anticipated residential purpose and Lots singularly insufficient for continued pastoral use, also evident onsite in pasture quality and bedrock protrusion.

*Exotic pasture species*³² as per definition do not include common wetland/ exotic grasses *Glyceria*; *Paspalum distichum*^{*33} (FACW), *Isachne globosa* (OBL); *Alopecurus geniculatus* (FACW) and *Agrostis stolonifera*^{*} (FACW) or unpalatable exotics such as *Ranunculus repens* (FAC).

³⁰ 8th December 2022 NPS; 5th December NES effective 5 Jan 2023

³¹ “This exclusion is not targeted at pasture being targeted for urban development or for other land uses. It does not apply to wetlands in other areas of grassland that are not grazed, such as in parklands, golfcourses, landscaped areas and areas of farmland not used for grazing purposes”. MfE (December 2022) Pasture Exclusion Assessment Methodology Pg 9

³² National List of Exotic Pasture Species List (2022) MfE

³³ * denotes exotic

NRC mapped *known wetland*³⁴ is limited to saltmarsh within or closely adjacent on the boundary of the CMA. The wetland in the northwest of proposed Lot 2 is almost entirely in the CMA. Species include FACW species *Juncus kraussii subsp. australiensis*; *Juncus acutus*; *Machaerina juncea*; *Oioi (Apodasmia similis)*; *Schoenus apogon*. Under Exclusion (a) of the NPS-FM (2020) definition these are no longer *natural inland wetland* subject to the NES-F (2020). They are, however, considered *wetland* under the RMA and Coastal Policy Statement and *natural wetland* as per PNRP definition and subject to protective provisions therein. No alteration or interaction of the proposed activities, including structures, is proposed for these areas. The jetty on proposed Lot 3 was constructed legally (*pers.comm Steve Mason*).

The NPS FM (2020) applies to all freshwater (including groundwater) and to receiving environments including estuarine and the wider coastal marine area to the extent they are affected by freshwater. This is relevant to the site in regard to:

Policy 3: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.

In the absence of point source discharge there is highly unlikely to be any *change in their seasonal or annual range in water levels*, as per PNRP Policy H.4.2 Minimum levels for lakes and natural wetlands.

The CMA wetlands are approximated by the type:

SA1-MANGROVE FOREST AND SCRUB

- forest and scrub of abundant mangrove
- often with areas of rushland, herbfield including sea rush and oioi
- locally species of *Machaerina juncea* and *Bolboschoenus*, and salt marsh ribbonwood, grading to seagrass herbfield on tidal flats
- may locally include shell barrier beaches with a scattered herbfield of glasswort, buggar grass, knobby clubrush, sea rush, sea primrose and sea blite

Visual vegetation survey was undertaken in accordance with the MFE Wetland Protocols (Clarkson 2022) on further extent of wetland within proposed Lots 1 & 2. The Rapid Test, as the first strata of wetland delineation was sufficient to confirm wetland presence with dominance typified by obligate (OBL) and facultative wetland (FACW) species forming a very obvious *natural inland wetland* communities

- within the west of proposed Lot 1, originating in short gully topography and exiting offsite to the railway reserve corridor contained the Twin Coast Cycleway.
- At the head and side of

Gully wetland outside the CMA on proposed Lot 1 & 2 is best typified as a swamp type³⁵ with flowing open channel in the high rainfall conditions, within depressed banks in the basal contour of the gully floor.

³⁴ NRC BIODIVERSITY WETLANDS <https://localmaps.nrc.govt.nz/localmapsviewer/?map=55bdd943767a493587323fc025b1335c>

³⁵ Johnson & Gerbeaux (2004) Wetland types of NZ

Swamp typically exhibits:

- *Slow to moderate flow*
- *Water table usually well above the ground*
- *Permanent wetness*
- *Peat and/or mineral substrate*
- *Intermingled sedge/rush/reed and scrub types often with forest*

The extant sources are the head seepages/ springs and there were no further tributary critical source areas (CSA) e.g. seepages or overland flow paths. The species associations vary along the course, dependant on water depth. They are of similar character, reflecting their parallel context.

In both instances raupō is dominant at origin grading into a sedge and rafting grass matrix of OBL & FACW species. *Schoenoplectus tabernaemontanii* and *Machaerina* occur in deeper areas. With raupō, the presence of these larger species implies consistent periodicity of flow. Further site species include *Carex*; *Eleocharis acuta*, *Isolepis*; umbrella sedge (*Cyperus*); purua grass (*Bolboschoenus*) with native wetland grass species swamp millet *Isachne globosa* (OBL) a rampant scrambler over other species. This creates a deceptively terrestrial appearance, revealed to be rafting over standing water if ventured into. Flax (FACW *Phormium tenax*) rings the margin with pampas (FAC) a prevalent pest in drier areas.

Hypolepis ambigua

Expected exotics tend to the drier margins e.g. innocuous *Cyperus brevifolius* (FACW), *Ranunculus*; *Myosotis laxa* (FACW). Control of exotic wetland grasses and herbaceous species is not recommended in this instance as they are difficult to distinguish from the often similar native component, with parallel functional water quality protection. Rather the larger stature invasive species should be the focus e.g. mistflower; elephants ear; taro; ginger.

Beyond monotypic raupō dominant areas the character is best approximated as a form of:

WL11- MACHAERINA SEDGELAND

- shallow palustrine/riverine/lacustrine wetlands of a wide range of variants throughout New Zealand.
- sedgeland, rushland with a high water table
- dominated by species of *Machaerina*, *square sedge*, *Eleocharis*, *Juncus* with *Carex* spp.

Grass species were recognized through professional experience from leaf form, ligule; growth habit and habitat.

As well as extent, consideration of the site wetland included information from the desktop review to inform likely wider context and potential shared *values*³⁶. Avoidance of *extent* and *values* loss is core policy³⁷ of the NPS – FM (2020).

Values as per NPS- FM definition–

ECOSYSTEM HEALTH

- Currently impacted condition – limited diversity, semi indigenous with functionality of sediment retention and processing short coastal extent to Bay
- Contribution of basic feeding habitat and likely freshwater fish species retention across guilds

³⁶ Values (NPS FM 2020 Amendment No.1 (2022) (i) ecosystem health; (ii) indigenous biodiversity; (iii) hydrological function; (iv) Māori freshwater values; (v) amenity values

³⁷ Policy 6: *There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.*

INDIGENOUS BIODIVERSITY

- Entire site is *Kiwi Present Zone* (DOC 2018)
- Limited bird guild - insectivores appear dominant
- Wetland and connection to lower estuarine Kawakawa River
- Potential freshwater fish habitat in wetland flow interface and deeper areas
- Impacted by weeds within and riparian

HYDROLOGICAL FUNCTION

- sediment retention and processing, tributary to the Bay

MĀORI FRESHWATER VALUES

- Likely both intrinsic and functional – outside scope of this report

AMENITY VALUES

- impacted by wild ginger and other riparian weed species

VIEW EAST GUMS WATTLE AMONGST KĀNUKA ; MĀNUKA, MAMAKU; MIXED COMMON BROADLEAVES ; RAUPŌ IN GULLY HEAD; PŪRIRI IN GULLY



NORTHERN WETLAND PROPOSED LOT 2 ADJACENT SALTMARSH IN DISTANCE (CMA) & OFFSITE



FAUNA

Primary observations were made in addition to consideration of wetland and vegetation significance, to complement characterisation of the site.

AVIFAUNA

Six 5 Minute Bird Counts were undertaken across the site on the morning of the site visit under clear calm conditions

- Bottom of wetland & beach
- Each clearance area (3)
- Mid proposed Covenant X adjacent pūriri & rimu
- Top of access at Te Wahapu Rd

Conspicuous birdlife consisted of common exotic and native generalist insectivorous i.e. grey warbler; multiple fantail; kingfisher on margins of bush and wetland. The insectivores are versatile in their habitat occupation and the proposal areas are unlikely to represent primary irreplaceable habitats. Tūī and kūkupa were sighted crossing cover in the near distance. Kūkupa are not likely to favour the kānuka dominated vegetation onsite, unable to satisfy their frugivorous and nectivorous dietary components. Large exotics including wattle provide a wider temporal nectar source for tui.

Ground dwelling or nesting birds e.g. weka; kiwi and wetland specialists are particularly vulnerable to mammalian predators. Pest control increases functional habitat, and allows recruitment, as opposed to the simple provision of cover and is currently undertaken onsite in an informal manner, targeting possums particularly around the shed proposed Lot 3.

The property is classed as *KIWI PRESENT (DoC 2018)*. N.I Brown Kiwi are now considered *Not Threatened*, predicted to increase by > 10% over three generations due to the intensive in situ control of predators by many community groups and government agencies, ex situ management, and translocations to secure sites. However, qualifiers to this status include *CD – Conservation Dependent, with RF- Recruitment Failure & PD – Partial Decline* from predation of chicks / decline of breeding individual numbers. Both of these scenarios translate to further loss of populations in a local uncontrolled environment. Wetland areas and damp gullies with adjacent cover represent high territorial economics when supported by pest control.

N.I Weka (*At Risk- Relict*) are noted as present in the PNA assessment. Due to their breeding rate they can maintain an occupancy to 2.6 birds/ ha. They were once common in Northland and across the North Island until a suspected disease wiped out nearly all but Gisbourne populations in the 1930s. Weka were rereleased into Rawhiti in the late 1960s onwards by the then national Wildlife Service, and established well, able to travel some distance.³⁸ They are widely thought to have been transferred further by well meaning interest groups and individuals. Versatile in their habitat occupation, the main threats to weka are considered predation and drought,³⁹ not unlike kiwi. They predate a wide range of native and exotic fauna including lizards, frogs, ground dwelling birds and rodents.

No burrows or potential nests/ shelters were found directly within or nearby the proposal areas. However, kiwi will shelter in unexpected places –tangles of tall grass; at the base of tree ferns under fronds or amongst woody forest debris. Regardless, a check/ run through with a

³⁸ One of the 1967 originals lost during transit in Auckland was captured 72kms away 6 weeks later.

³⁹ Beauchamp, A.J.; Miskelly, C.M. 2013 [updated 2017]. Weka. In Miskelly, C.M. (ed.) New Zealand Birds Online. www.nzbirdsonline.org.nz

kiwidog should be made prior to siteworks for daytime sheltering birds, starting on the inner parameter to allow any present to move off into cover if disturbed. A certified kiwi handler must move them physically if necessary, to avoid contravening the Wildlife Act (1953). A check for weka nests is also prudent at the time - woven in dense vegetation, usually under a low object or within a burrow.

Fernbird (*mātātā*; *Poodytes punctatus* *At Risk -Declining*) were observed adjacent the Lot 2 wetland. Despite playbacks none were encountered within the Lot 1 wetland. They are the most likely wetland bird species to respond if present.

No other specialist wetland birds were encountered. Crakes and rail are notoriously reticent even if present.

No roosting trees for pelagic birds are located onsite, or visible on the estuarine periphery from view points. These are typically indicated by regular aggregation of multiple individuals, often audible at dawn and dusk, or extensive guano wash of trunks/ branches. No penguins have been heard or encountered by Mr Mason in the bush or around the shoreline.

The lower edge with mud flats and mangroves are not a typically favourable seal haul out. None have been sighted during Mr Masons ownership.

HERPTOFAUNA

Onsite vegetation presents habitat for a range of lizards frequently described in local PNA surveys and reporting- most commonly Northland green gecko (*Naultinus grayii*; *At Risk-Declining*), and the Pacific gecko (*Dactylocnemis pacificus*; *At Risk-Relict*). No diurnal species were encountered onsite despite visual survey. This included disturbing longer groundcover, debris and scrutiny of taller vegetation; trunks and potential basking sites e.g. sunny trunks and open edges; banks & rocks. A nocturnal herptofauna survey was beyond the scope. Pest control is key to presence and under those circumstances species may occupy favourable habitat even in close proximity to the proposed increase of residential occupation. Cats are large consumers of herptofauna, also predated by weka and rodent/ mustelids.

FISH

The southern gullies with highly ephemeral flow in the area not considered habitat. The northern gully waterways/ wetlands Lot 1 & 2 including extent in the CMA are considered outside a zone of influence (ZOI), well buffered by vegetation and pre-emptive distancing of the proposal activities. In the absence of risk, a fish survey was outside the scope of reporting with consideration limited to desktop review. There are no site specific FWFD records⁴⁰. Local records from similar habitats include ideal species preferring slow moving coastal waters e.g shortfin eel (*Aguilla australis*); common bully (*Gobiomorphus cotidianus*); giant bully (*Gobiomorphus gobioides*; *At Risk- Naturally Uncommon*) and inanga (*Galaxias maculatus* *At Risk - Declining*).

A perched culvert under the Cycleway will be impacting diadromous fish populations to the proposed Lot 1 wetland. However, eel may navigate the short width overland and common bully have the potential to exist as landlocked populations if present prior to the obstruction.

⁴⁰ Freshwater Fish Database records NIWA



SUMMARY OF ECOLOGICAL ISSUES IDENTIFIED

In summary, key environmental issues existing prior to proposal development are identified below. These are a combination of implied, from desktop review, and observed:

TABLE 8: CURRENT SITE ISSUES IDENTIFIED PRIOR TO PROPOSAL

EXISTING ISSUE	STATUS	MANAGEMENT
STATE OF EXISTING NATIVE ECOSYSTEMS	Weed ingress Majority of site simple biodiversity Kānuka canopy open; senescing Risk of loss of extent wetland from weeds Not defined; further encroachment and loss of extent likely with development	Weed control; buffer planting prevent inadvertent clearance bolster natural regeneration of absent podocarps and broadleaved canopy species; reduce edge effects Pest control to maintain/ bolster avifauna/ herptofauna
APPARENT LACK OF HERPTOFAUNA	Likely pest populations were a contributing factor and re establishment from limited populations not occurring	Formalised weed & pest control
FORMAL PROTECTION OF SIGNIFICANT VALUES	Voluntary	Formalised weed & pest control Formal covenanting

Issues identified are common throughout Northland ecosystems, representing a baseline for cumulative effects that may occur with the increase of residential occupation but alternatively also be addressed by the proposal to provide a positive effect.

SIGNIFICANCE

Consideration of significance is given in regard to *Northland Regional Policy Statement Appendix 5 (2018)*, with guidance contained within non statutory documents including *DOC Guidelines for Assessing Significant Ecological Values (2016)*; *Guidelines for the Application of Ecological Significance Criteria for Indigenous Vegetation and Habitats of Indigenous Fauna in the Northland Region (Wildlands 2019)*.

Appendix 5 is the standard Northland criteria for assessing significance of an ecological site, and directly reflects those contained in *Appendix 1* of the recently mandated *National Policy Statement for Indigenous Biodiversity (2023)* including consideration of *Representativeness; Diversity & Pattern; Rarity and Distinctiveness & Ecological Context*. The *ecological site* includes the entire vegetation of the Lot, with comment then given on the clearance areas.

TABLE 9: ASSESSMENT OF SIGNIFICANT INDIGENOUS VEGETATION AND SIGNIFICANT HABITATS OF INDIGENOUS FAUNA IN TERRESTRIAL, FRESHWATER AND MARINE ENVIRONMENTS NORTHLAND REGIONAL POLICY STATEMENT (2018) APPENDIX 5

(1) REPRESENTATIVENESS	WETLAND	TERRESTRIAL
<p>(A) Regardless of its size, the ecological site is largely indigenous vegetation or habitat that is representative, typical and characteristic of the natural diversity at the relevant and recognised ecological classification and scale to which the ecological site belongs</p> <p>(i) if the ecological site comprises largely indigenous vegetation types: and</p> <p>(ii) Is typical of what would have existed circa 1840</p> <p>(iii) Is represented by the faunal assemblages in most of the guilds expected for the habitat type</p> <p>(B) The ecological site</p> <p>(i) Is a large example of indigenous vegetation or habitat of indigenous fauna</p> <p>(ii) Contains a combination of landform and indigenous vegetation and habitats of indigenous fauna that is considered to be a good example of its type at the relevant and recognised ecological classification and scale</p>	<p>A(i) Yes but weedy riparian component</p> <p>(ii) swamp Lot 1 impacted by culvert and rail trail modification. Saltmarsh and wetland Lot 1 intact in occupancy. Both with weedy component in riparian areas</p> <p>(iii) freshwater fish likely Lot 2 Lot 1 wetland occluded by perched culvert; fernbird sighted habitat potential for others</p> <p>B) (i) Yes- both wetlands are contiguous with larger extent offsite swamp & saltmarsh. Rail trail and culvert impact Lot 1 swamp fish passage</p> <p>(ii) Yes as most freshwater coastal wetlands have been reduced in the ecological district as nationally</p> <p>MODERATE-HIGH</p>	<p>A(i) YES kānuka dominant, but strong exotic component in most areas. Varied age and structure, more recently modified are heavily impacted</p> <p>(ii) contains kānuka dominant shrubland derivative of WF11- forest of varying integrity, common in ecological district some mānuka & mamaku dominance areas. Large woody weed component</p> <p>(iii) insectivorous birds and ground dwellers weka and kiwi lack of frugivores</p> <p>B) Yes – the ecological site is considered part of the wider peninsula vegetation & contiguous PNA</p> <p>(ii) Contributes to the the wider contiguous PNA coastal kānuka cover Onsite historic clearance, prior pest influence and edge effects has subdued pattern and representativeness – remaining is versatile unpalatable pioneer species and weeds with more diverse to gully vegetation proposed Lot 1 and southern headland proposed Lot 2</p> <p>MODERATE</p>
<p>(2) RARITY/ DISTINCTIVENESS</p> <p>(A) The ecological site comprises indigenous ecosystems or indigenous vegetation types that:</p> <p>(i) Are acutely or chronically threatened land environments associated with LENZ Level 4</p> <p>(ii) Excluding wetlands, are now less than 20% original extent</p> <p>(iii) excluding man made wetlands are examples of wetland classes that either otherwise trigger Appendix 5 criteria or exceed any of the following area threshold</p> <p>(a) Saltmarsh 0.5ha</p> <p>(b) Shallow water lake margins and rivers 0.5ha</p> <p>(c) Swamp >0.4</p> <p>(d) Bog >0.2 ha</p> <p>(e) Wet heathlands >0.2 ha</p> <p>(f) Marsh; fen; ephemeral wetland or seepage/flush >0.05ha</p> <p>(B) Indigenous vegetation or habitat of indigenous fauna that supports one or more indigenous taxa that are threatened, at risk, data deficient, or uncommon either nationally or within the relevant ecological scale</p> <p>(C) The ecological site contains indigenous vegetation or an indigenous taxon that is</p> <p>(i) endemic to the Northland/ Auckland region</p> <p>(ii) At its distribution limit in the Northland region</p> <p>(D) The ecological site contains indigenous vegetation or an association of</p>	<p>A(i) no</p> <p>(iii) onsite no but with offsite extent saltmarsh Lot 2 (a)</p> <p>B) POTENTIALLY Giant bully (At Risk- Naturally Uncommon) Banded kokopu (Regionally significant), fernbird (At Risk Declining) potential use by further wetland birds; bittern habitat mapped potential as part of wider habitat</p> <p>D Yes saltmarsh;</p> <p>MODERATE- HIGH</p>	<p>A(i) no</p> <p>(ii) No WF11 not represented. CL1 Pohutukawa fringe in marginal strip only coastal forest type</p> <p>B) weka (At Risk – Relict) Potentially <i>Pittosporum pimeliodes</i> (At Risk – Naturally Uncommon)</p> <p>C) Potentially <i>Pittosporum pimeliodes</i> (At Risk – Naturally Uncommon) other species common in ED endemic to Northland</p> <p>D) Potentially <i>Pittosporum pimeliodes</i> (At Risk – Naturally Uncommon)</p> <p>LOW- MODERATE</p>

<p><i>indigenous taxa that</i></p> <p>(i) <i>Is distinctive of a restricted occurrence</i></p> <p>(ii) <i>Is part of an ecological unit that occurs on a originally rare ecosystem</i></p> <p>(iii) <i>Is an indigenous ecosystem and vegetation type that is naturally rare or has developed as a result of an unusual environmental factor(s) that occur or are likely to occur in Northland: or</i></p> <p>(iv) <i>Is an example of a nationally or regionally rare habitat as recognised in the New Zealand Marine Protected Areas Policy</i></p>		
<p>(3) DIVERSITY AND PATTERN</p> <p>(A) <i>Indigenous vegetation or habitat of indigenous fauna that contains a high diversity of:</i></p> <p>(i) <i>Indigenous ecosystem or habitat types; or</i></p> <p>(ii) <i>Indigenous taxa</i></p> <p>(B) <i>Changes in taxon composition reflecting the existence of diverse natural features or ecological gradients; or</i></p> <p>(C) <i>Intact ecological sequences</i></p>	<p>B/C) Part of Intact ecological sequences when considered in association with the wider vegetation and estuary. Saltmarsh also in itself is an ecotone between marine and freshwater system</p> <p>HIGH</p>	<p>A(i) & (ii) Varied age structure and complexity of kānuka dominant cover largely related to age and weed impact– Lot 2 headland most diverse. Mānuka low diversity areas and some simple diversity in kānuka shrubland; Mamuku dominance in steep gully heads with low diversity typical despite age, some heightened diversity in wetland gully Lot 1 & 2 e.g. pūriri forest</p> <p>B) & C)</p> <p>Simple changes in vegetation with topography from ridge to shore; soil and moisture to gully; riparian and wetland</p> <p>MODERATE</p>
<p>(4) ECOLOGICAL CONTEXT</p> <p>(A) <i>Indigenous vegetation or habitat of indigenous fauna is present that provides or contributes to an important ecological linkage or network, or provides an important buffering function: or</i></p> <p>(B) <i>The ecological site plays an important hydrological, biological or ecological role in the natural functioning of a riverine, lacustrine, palustrine, estuarine, plutonic(including karst), geothermal or marine system</i></p> <p>(C) <i>The ecological site is an important habitat for critical life history stages of indigenous fauna including breeding/ spawning, roosting, nesting, resting, feeding, moulting, refugia or migration staging point (as used seasonally, temporarily or permanently</i></p>	<p>A) Bittern habitat potentially mapped Lot 2 and within freshwater extent on site as part of wider territory</p> <p>B) The wetland/saltmarsh form a buffer between coastal waters and terrestrial habitat at the site in terms of sediment; nutrient and stormwater retention .</p> <p>C) Potentially native diadromous freshwater fish habitat. Potential habitat for wetland birds including wider habitat potential for bittern. Freshwater source in times of drought for local fauna eg. kiwi weka</p> <p>HIGH</p>	<p>A) contributes to the vegetated linkage across the Peninsula for fauna. Buffers short coastal waterways, ephemeral gullies and wetland on site that are hydrologically connected to the Bay</p> <p>B) YES as riparian vegetation close proximity to hydrological freshwater source and shortly to marine environments</p> <p>C) fernbird in woody riparian vegetation; potentially weka & kiwi. Common insectivorous birds. Herptofauna likely impacted by predators</p> <p>HIGH</p>

Significance of the overall terrestrial cover includes as habitat for birds including ground dwelling kiwi and weka wetlands; integral connectivity within the expansive broad Opuā PNA; natural pattern; and physical and functional buffering to the aquatic environments as riparian vegetation - erosion control.

The significance ratings for each of the 4 criteria in Appendix 5 Significance Assessment are combined to give an overall single value according to Table 9 (EIANZ Table 6), below. This should not however suppress any impact consideration of a single value or component.

In particular, this ecological condition/quality is important in assessment because it contributes to the way an activity may affect a feature (EIANZ 2018).

TABLE 10: SCORING FOR SITES COMBINING VALUES FOR SIGNIFICANCE CRITERIA (TABLE 6 EIANZ)

VALUE	EXPLANATION
VERY HIGH	Area Rates VERY HIGH for 4 or all of the matters in Appendix 5 RPS. Likely to be nationally important and recognised as such
HIGH	Area rates HIGH for 2 of the assessment matters. Moderate and LOW for the remainder
MODERATE	Area rates HIGH for one matter, MODERATE & LOW for the remainder Area rates MODERATE for 2 or more of the criteria. LOW or very LOW for the remainder. Likely to be significant in the ED
LOW	Area rates LOW or VERY LOW for all but one MODERATE. Limited ecological value other than as habitat for local tolerant species.
NEGLECTIBLE	Area rates VERY LOW for 3 matters and MODERATE LOW or VERY LOW for the remainder.

On this basis the wetland ecosystems and overall terrestrial cover have *HIGH VALUE*.

Consideration of identified site species value is also given as below (EIANZ 2018)

TABLE 11: FACTORS TO CONSIDER IN ASSESSING SPECIES VALUE (TABLE 5 EIANZ 2018)

VALUE	EXPLANATION
VERY HIGH	Nationally Threatened species (Critical, Endangered or Vulnerable) found in the Zone of Influence or likely to occur there, either permanently or occasionally
HIGH	Nationally At Risk species (Declining) found in the Zone of Influence or likely to occur there, either permanently or occasionally
MODERATE-HIGH	Species listed in any other category of At Risk category (Recovering, Relict or Naturally Uncommon) found in the Zone of Influence or likely to occur there, either permanently or occasionally.
MODERATE	Locally uncommon/rare species but not Nationally Threatened or At Risk.
LOW	Species Not Threatened nationally and common locally.
NEGLECTIBLE	Exotic species, including pests

In regard to *Table 11* above:

VERY -HIGH VALUE

Threatened – Nationally Critical

- Australasian bittern - *Potential wetland habitat*

HIGH VALUE

At Risk – Declining

- Potential habitat for Northland Green Gecko & *Mokopirakau granulatus* - higher value cover in more diverse creek gully cover adjacent e.g. berries; broader array of insects

MODERATE – HIGH VALUE SPECIES

- NI Weka (*At Risk – Relict*)
- Giant Bully (*At Risk- Naturally Uncommon*)
- *Pittosporum pimeleoides* (*At Risk- Naturally Uncommon*)

MODERATE VALUE SPECIES

Regionally Important; Conservation Dependiant

- NI Kiwi (CD)
- Banded kokopu *potential (Regionally Significant)*

LOW VALUE SPECIES

Common in the ED & onsite

- *Mānuka, kānuka, tānekaha mapou ground covers towai tōtara mingimingi site ferns Coprosma spp etc*

All *Myrtaceae* species e.g. kānuka & mānuka are at risk of infection by myrtle rust (*Austropuccinia psidii*), however an area should not be classified as significant based purely on their presence without broader consideration. Kānuka and mānuka dominant cover is common and widespread in the Kerikeri Ecological District and therefore not considered significant

under Appendix 5: *Criteria Rarity 2(B)* for species value alone, in accordance with regional guidance⁴¹. We assign it a LOW value as per *Table 10* above (*EIANZ Table 5*).

Canopy podocarps and broadleaves have less available seed source or avian distributors and take longer to reach maturity. They are recognized as valuable intrinsically and as provisioning resources for fauna, however they have no threat status other than kauri (*At Risk – Declining*), and remain common in the ED e.g. pūriri. The assigned value of the majority of flora species onsite is *NEGLIGIBLE – LOW*. Neither are there any associations of significant type variants noted in the PNA documentation.

The deliberately designated clearance areas are a minimal and depauperate representation of the wider values and characteristics, by mere virtue of presence of cover, rather than quality, having been subject to edge effects from a pre-existing track and more recent clearance.

No highly mobile species⁴² are likely dependant on the areas for any part of their lifecycle. There is **potential** for the weka and kiwi to be present in the footprint of clearance areas, as part of the wider site territory. Clearance of the small areas is unlikely to affect any of these species in a significant adverse way. All will live closely proximate with residential occupation if predator control in functional habitat allows. We recommend a pre works site check for daytime sheltering fauna and clearance working from the open outer edge to allow retreat for all species. It is an offence under the Wildlife Act 1953 to **intentionally** harm, disturb or kill native wildlife.

We therefore rate the potential clearance areas as **LOW** as appropriate.

ASSESSMENT OF EFFECTS

EIANZ METHODOLOGY

Assessment of effects follows the systematic process of the EIANZ⁴³ Guidelines as best practice.

Standard criteria are utilised in a matrix framework to determine the impact of a proposal on a habitat, incorporating a three step process:

- Ecological values are ranked on a scale of *Negligible, Low, Moderate, High, or Very High*.
- The magnitude of effects on these values is ranked on a similar scale (EIANZ TABLE 8)
- The overall level of effect is determined by a combination of value and the magnitude of the effect. (EIANZ TABLE 10)

Magnitude is determined by a combination of scale (temporal and spatial) of effect and degree of change that will be caused in or to the ecological component. It should initially be considered in a raw or unmitigated form.

⁴¹ Wildlands (2019) Guidelines for the application of ecological significance criteria for indigenous vegetation and habitats of indigenous fauna in the Northland Region. Contract Report 4899a;

⁴² NPSIB (2023) *Appendix 2: Specified highly mobile fauna*

⁴³ Environmental Institute of Australia and New Zealand

MAGNITUDE OF EFFECTS

Consideration of a raw proposal form without any mitigation is best practice methodology.

TABLE 12: CRITERIA FOR DESCRIBING MAGNITUDE OF EFFECT (EIANZ 2018 TABLE 8)

MAGNITUDE	DESCRIPTION
VERY HIGH	Total loss of, or very major alteration to, key elements/features/ of the existing baseline conditions, such that the post-development character, composition and/or attributes will be fundamentally changed and may be lost from the site altogether; AND/OR Loss of a very high proportion of the known population or range of the element/feature
HIGH	Major loss or major alteration to key elements/features of the existing baseline conditions such that the post-development character, composition and/or attributes will be fundamentally changed; AND/OR Loss of a high proportion of the known population or range of the element/feature
MODERATE	Loss or alteration to one or more key elements/features of the existing baseline conditions, such that the post-development character, composition and/or attributes will be partially changed; AND/OR Loss of a moderate proportion of the known population or range of the element/feature
LOW	Minor shift away from existing baseline conditions. Change arising from the loss/alteration will be discernible, but underlying character, composition and/or attributes of the existing baseline condition will be similar to pre-development circumstances or patterns; AND/OR Having a minor effect on the known population or range of the element/feature
NEGLIGIBLE	Very slight change from the existing baseline condition. Change barely distinguishable, approximating to the 'no change' situation; AND/OR Having negligible effect on the known population or range of the element/feature

We considered the magnitude of effects of the suggested permanent clearance and introduction of residential occupation, as the primary focus, as *MODERATE* in terms of a change from the current ecological context as per EIANZ criteria above. This incorporates the quality of vegetation to be removed in absolute terms of cover, species value and its minimal role in ecosystem function.

Clearance have been orientated to avoid any larger stature podocarps or broadleaves. No kauri (*Threatened – Nationally Vulnerable*) are present/designated for removal. There will also be no important loss of habitat for identified **potential** species (i.e *elements & features*). Utilising the existing cut accesses will minimise further possible fragmentation and interaction of the proposal with broader site values in gullies and towards the shoreline. Landscape permeability for low or ground dwelling fauna will be retained allowing natural dispersal across the broader extent of local cover and within potential meta populations.

The interaction of magnitude of effect and ecological value (or significance) of species and habitat gives the **unmitigated level of effect** as per EIANZs *Table 10* (below). This resultant level of effects is then a guide to the extent and nature of the ecological management required to render them acceptable in the statutory framework.

In this regard we consider **unmitigated** impacts as *VERY LOW* as an interaction between a *MODERATE* level of effects on *LOW* value elements as below:

TABLE 13: CRITERIA FOR DESCRIBING LEVEL OF EFFECTS (EIANZ TABLE 10)

		ECOLOGICAL &/OR CONSERVATION VALUE				
		VERY HIGH	HIGH	MODERATE	LOW	NEGLIGIBLE
MAGNITUDE	VERY HIGH	Very High	Very High	High	Moderate	Low
	HIGH	Very High	Very High	Moderate	Low	Very Low
	MODERATE	Very High	High	Moderate	Very Low	Very Low
	LOW	Moderate	Low	Low	Very low	Very Low
	NEGLIGIBLE	Low	Very Low	Very Low	Very Low	Very Low
	POSITIVE	Net Gain	Net Gain	Net Gain	Net Gain	Net Gain

Impact management should enable maintenance or improvement of existing biodiversity (EIANZ 2018).

To avoid clearance of better examples of site vegetation, building sites are to pre emptively sited at easy accessible contour in vegetation impacted by edge effects and exotics. Lot 2 in particular has largely existing clear area, while Lot 1 comprises more recently established mānuka with low diversity and a strong exotic component.

Designated building platforms (30 x 30m) and access are to be encompassed by 10m firebuffer replanted in low flammability native vegetation. Likewise, amouring access to the Lot 1 house site against fire risk will necessarily require some further loss of mānuka. To prevent edge effects and weed ingress it is proposed a planting of the final edge is also undertaken.

This represents:

- house site 30 x30 m (900m²) + 10m fire buffer to be revegetated (700 m²)
- Proposed Lot 1 additional 4m x approx. 60m wide access (240m²) + 5m eitherside revegetated fire buffer (600m²)

Currently clear areas will be maintained as such for additional fire safety and utility e.g. main ridge access to both sites; established access to Lot 2 DP 604018 from proposed Lot 2 to allow retreat.

Replanting of the fire buffer zone cannot be considered mitigation in mere terms of cover, as already occupied in part by mānuka/ kānuka However, reduction of weeds and increased biodiversity overall is appropriate currency to mitigate the permanent loss of far smaller areas, through replacement with a variety of fruiting broadleaved species referencing the appropriate predicted habitat type. This represents a net gain over the status quo biodiversity and functional habitat for a broader range of fauna as well as improved amenity appeal. In light of the senescing canopy, exotic component and absent or early successional ground cover, replanting with a more biodiverse secondary association will improve quality of vegetation as habitat, ensure resilience of remaining cover and ‘short circuit’ an otherwise prolonged successional process. Natural succession is by no means a guaranteed outcome of pioneer species revegetation.

In terms of the house sites and access the vegetation is largely considered of *LOW- NEGLIGIBLE* value ie. not significant and the fire buffer revegetation an improvement on overall condition.

- ✓ The primary effect is permanent clearance. In response it is proposed to provide a net gain of at least 700m² of higher value vegetation over the current condition with revegetation of designated clearance area fire resistant species buffer 10m wide

Species should be:

- appropriate to predicted forest type and location,
- mid successional shade tolerant,
- low flammability
- diverse mix with broad temporal fruit supply

Other positive effects of planting will be

- increase the ability of the site to accommodate the stormwater dispersal to ground
- visual definition of the protected areas to future owners to prevent future clearance.
- Increase site seed sources for natural regeneration in amenity value of the accessways and overall subdivision as the kānuka/ mānuka continues to senesce
- Increased diversity & territorial economics for fauna over the current early successional state e.g. berries; nectar.

We recommended varieties are not used are eco- sourced and no kauri should be introduced.

A broader range of root types and higher transpiration potential over that of drought adapted mānuka is also better protection in the long term against slips and slump terrace formation, typical of the *RAH* site soils.

Designated development earthworks envelopes are recommended to ensure contractors avoid accidental incursion and unquantified effects e.g. pushing fill back into vegetation, an unintentional communitarity in many such situations. Best practice clearance methodology includes:

- manual clearance outside of key breeding season of kiwi/weka
- Stumping of larger stature individuals allows root tensile strength retention of soils/ slope for stability while new species establish
- Avoid site scraping of revegetation areas to maintain soil capabilities
- machinery hygiene to avoid weed spread
- rapid replanting of clearance edge (first growing season)

The wider Lot has *HIGH* significance. Introduction of further residential occupation has potential effects of increased disturbance –pets; pest and weed ingress, ongoing edge effects and clearance of a natural high use area around houses. In terms of the ecological values ascertained wider onsite and described in the mapped significance and character layers, no aspects are considered to be at risk from the development either on or offsite, providing typical management is applied to the development protective of those characteristics and

qualities e.g. weed/pest/ pet control; buffer planting of local appropriate low flammability species⁴⁴; best practice stormwater and earthworks control with adherence to NES- F (2020) protective regulations for hydrological maintenance and fish passage.

Pest control is required indefinitely to retain biodiversity and functionality of habitat, as opposed to simple existence of vegetated cover. High value fauna present may exist in proximity to peri urban areas as long as there is sufficient functional habitat and pest control. Long term pest management coupled with habitat preservation will ensure the sites ability to support more individuals and concomitantly increasing survival.

Cats and dogs are a primary threat to ground dwelling fauna. Cats are to be excluded as standard in a *Kiwi Present* zoning, with controls on dogs as standard Council procedure for the zone.

A Weed and Pest Management Plan should be developed as standard protection for the site values to remedy existing issues and mitigate loss of cover by increasing functionality of that remaining as habitat and representation of expected biodiversity.

Primary weeds across the site are

- wild ginger, in the damper mamauku and wetland gullies particularly
- hakea
- tobacco weed
- gorse
- pampas
- mistflower (wetland)
- privet
- black wattle
- wilding pine
- monkey apple

The large gums and pines throughout the wider site offer vertical niche heterogeneity and valuable slope stabilisation and their removal is not a priority. Wildlings are to be managed as part of the wider exotic control.

Priority areas will include

- wetland and riparian gully vegetation proposed Lot 1 viewable from Twin Coast Cycle Trail, accessways subject to edge effects;
- wild ginger in mamaku gullies southern Lot 2 & 3
- higher diversity remnant vegetation of the southern Lot 2 headland

Control may create open areas, which should be revegetated with a common suite of adaptable easily obtainable and cost effective species as appropriate to the particular location – flax, kānuka, mānuka, coprosma or fivefinger.

The site wetland as a distinctive consideration maintains an overall *HIGH* significance. Drainage of wetlands is a prohibited adverse effect and it is presupposed this will not occur.

Generalised potential effects are considered to be as below:

- Discharge of stormwater; sediment and contaminants to wetland

⁴⁴ limited plate of revegetation species no varietals low flammability e.g large leaved coprosma species; fivefinger; mahoe; hangehange; flax

- Loss of *Threatened & At Risk* species through physical threat by pests; weeds and habitat disturbance
- Biosecurity- introduction of pests & weeds
- Garden waste dumping

It is well documented that increased turbidity and sediment loads have negative impacts on aquatic communities. Sedimentation or stockpiling can cause smothering of small waterways with low flow and wetland vegetation; eutrophication; infilling and alteration of species composition. Together these effects adversely affect habitat of freshwater fish.

However, it waterways are unlikely subject to potential effects as > 100m distant from the clearance areas. Interaction is otherwise is controlled by NES – F (2020) regulations and engineering best practice to avoid impacts from development and residential infrastructure in accordance with parameters of GD01, GD05 & TP 90. Stormwater discharge to wetland should be diffuse. Recommendations of the Wilson Joubert Geotech Report (11/11/24) include *clearing of vegetation downslope of the DBP's is discouraged.*

Site procedures for residential and infrastructure development should include contingencies in the event of

- discharge of fuels;
- clearance of undesignated areas;
- actions to take if native fauna is discovered in works area, injured or killed (contact consulting ecologist & /or DoC hotline -800 DOC HOT 0800 362 468)

TABLE 14: POTENTIAL ADVERSE EFFECTS & PROPOSED MANAGEMENT

IMPACT MANAGEMENT			
	AVOID	REMEDY	MITIGATE
HABITAT CLEARANCE	<p>Sites designated to Negligible- Low value areas, open and impacted Designated envelopes to be undertaken by the developer to avoid unforeseen clearance or disturbance to habitat</p> <p>Best practice method – no depositing adjacent waterways; Low impact clearance methods (manual)</p> <p>Kiwi dog check, for At Risk/ Threatened species prior to works</p> <p>Retention of creek and wetland riparian vegetation in covenant X</p> <p>Further edge effects from clearance avoided by 10m enhancement planting under kānuka canopy at edge of clearance</p>	<p>10m Buffer replanting low flammability appropriate spp around perimeter of each clearance area promote regeneration of wider species biodiversity and better fruit/ nectar supply</p> <p>Planting 5m either side access edge of proposed lot 1</p>	<p>Weed control to protection of existing and new vegetation to ensure extent is maintained.</p> <p>Increased pest control to increase effective current & remaining habitat</p>
IMPORT OR STOCKPILING OF MATERIALS	<p>Not to be located adjacent any wetland</p> <p>No fill to be stockpiled against trees or in vegetation edges</p> <p>Earthworks best practice GD05</p>		<p>Check for pest species</p>
STORMWATER & SEDIMENT	<p>Best practice industry standards e.g.TP 90; GD01, GD05</p> <p>Planting of clearance edges to increase interception of diffuse sources- Weed / pest control to ensure resilience of ecosystem to intercept natural and created stormwater</p>		
RISK TO THREATENED FAUNA	<p>Preworks check to be made by ecologist/ kiwi dog for species identified in this EIA</p> <p>Contractors awareness of key species likely to be present to avoid contravening Wildlife Act</p> <p>No cats/ standard dog controls as commiserate with Kiwi Present Zone</p> <p>No dogs for contractors working or visiting onsite</p> <p>Planting and pest control to be prioritised in development time frame</p>		<p>Pest control will also prevent excursion offsite into Opuā PNA ; neighbouring property</p>
BIOSECURITY	<p>Plants to be checked prior to import to site for Argentinian Ants, myrtle rust and other obvious invertebrate or weed species in containers</p> <p>Plants to be appropriate to local potential species composition</p> <p>No kauri designated for planting .</p> <p>Machinery should be cleaned prior to entering site</p> <p>WPMP to include standard biosecurity measures</p>		
CONSTRUCTION NOISE	<p>Machinery to be serviced, appropriate and in good condition</p> <p>Clearance outside breeding season for key avian species</p> <p>Hours of work specified</p>		
LIGHT THROW	<p>No flood lighting of covenants.</p> <p>Downward facing low pressure lamps (no blue light for pelagic birds) with hoods to avoid light spillage and limit effects on nocturnal wildlife</p>		
IRRESPONSIBLE USE OR DECLINE OF COVENANTS	<p>COVENANT CONDITIONS</p> <p>No introduction of listed weeds; introduction of exotic aquatic plants or fish</p> <p>Maintain vegetation</p> <p>No deposition of vegetation or sediment where it may enter the wetland/ creek</p> <p>No drainage/ obstruction of flow creek or wetland</p> <p>No open fires in or adjacent covenants</p> <p>No disposal of waste or garden waste</p> <p>Monitoring of plantings & pest control</p>		

CONCLUSION

Reporting included review of available documentation of the proposal and ecological context from aerial photography and online mapping, complimented by targeted fieldwork.

The wider Lot has HIGH significance in terms of in terms of the *NRPS (2018) Appendix 5* criteria including connectivity with a far larger area of high value habitat as part of the expansive *Opuā PNA* forest tract, buffering of near shore saltmarsh and marine habitat and potential *Threatened* and *At Risk* species occupation/use. *Natural inland wetland (NPS FM 2020)* subject to the National Environmental Standards for Freshwater NES – F (2020) is located onsite. Potential adverse development effects on wetland, creek and more diverse gully and remnant habitat have been pre emptively avoided by their recognition in a development strategy specifically to protect significance values of the wider ecological unit.

Clearance of the currently open and weedy vegetation in the allocated proposal footprints at accessible contour is preferable over other site areas and will not result in any loss of vegetation; habitat or species with threat status. Removal of the prevalent exotic component contained within will have positive effects on the natural values of the area and reduction of fire risk.

Attention to clearance methodology, pest and weed control and protection of the remaining vegetation through a thickened buffer is considered primary mitigation to embed the increase residential occupancy in a resilient and effective habitat increasing both amenity and ecological value in terms of fruit quantity and temporal variation; and niche heterogeneity, enabling higher faunal biodiversity.

We considered the magnitude of effects of the suggested permanent clearance and introduction of further residential purpose in the proposal areas, as the primary focus, as *NEGLIGIBLE - LOW*, in terms of a change from the current ecological context as per EIANZ criteria. This incorporates the quality of vegetation to be removed primarily in terms of absolute cover, low species value and its minimal role in ecosystem function. There will also be no important loss of habitat for identified fauna. No kauri (*Threatened – Nationally Vulnerable*) are designated for removal.

Subject to avoidance and mitigatory measures provided in this EclA, development will not involve any loss of ecological features or values including extent of wetland. The proposal is undertaken with regard to the long term functionality and integrity of the wider environment, recognising the interdependency of the wetland, shrubland and connectivity of the landscape.

Although management actions are constrained to the property boundaries, positive gains will extend to neighbouring properties, increasing territorial economies of mobile species and consolidating pest control efforts across the wider high value landscape. These integrated mechanisms will serve to commend persistent indigenous habitat and character within the proposal, with a level of effects addressed through the mitigation hierarchy to obtain a *VERY LOW* impact (EIANZ 2018) or *less than minor* level of effects.



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APPENDIX 1: STATUTORY CONSIDERATIONS

FAR NORTH DISTRICT PLAN

The proposal has re orientated a subdivision scheme to a degree allowing residential occupation and infrastructure while recognising the wider sites significance values.

This achieves the aspirations of the District Plan objectives and policies, instigating substantial enhancement, management and protection of the site.

CHAPTER 12 INDIGENOUS FLORA & FAUNA

The proposal represents a development aligned with...

POLICY 12.1.4.8 *That the trend is towards the enhancement rather than the deterioration of landscape values, including the encouragement of the restoration of degraded landscapes*

and recognises

POLICY 12.1.4.10(g) *the contribution of natural pattern, composition and extensive cover of indigenous vegetation to landscape values*

by instigating substantial revegetation, weed management of the prevalent component and protection of the site in keeping with predicted local species WF11 type

The proposal is in line with **ENVIRONMENTAL OUTCOMES 12.2.2.** expectations for environmental values

12.2.2 OUTCOMES	
OUTCOME	PROPOSAL
12.2.2.1 <i>Population numbers of rare and threatened species of flora and fauna are maintained or increased and their habitat enhanced.</i>	Pest and weed programme Protection of higher territorial economics in terms of hydrology and diversity within gully wetland and more diverse older component Diverse planting appropriate to local predicted forest type
12.2.2.2 <i>Existing areas of significant indigenous vegetation and significant habitats of indigenous fauna do not suffer further degradation, and are, where possible, managed to enhance the area, and new and/or alternative areas are developed.</i>	The proposal increases diversity, and renders existing habitat more viable through protection, weed and pest control
12.2.2.3 <i>The District's exceptional biological diversity, including its high level of endemism, is maintained and enhanced for national benefit.</i>	Wide range of revegetation species, appropriate to the area, reference sites and types. Endemic <i>Pittosporum pimeliodes</i> will be protected
12.2.2.4 <i>An increase in those areas of significant indigenous vegetation and significant habitats of indigenous fauna, which are formally protected.</i>	YES extensive covenanting proposed
12.2.2.5 <i>The people of the Far North will have an increased awareness of the indigenous biodiversity of the area and a stronger commitment to its protection and enhancement.</i>	The planting will provide a wider expression of natural local associations Protection is formalised Pest control will increase amenity appeal adjacent Twin Coast Cycle Trail

The proposal fits with **OBJECTIVES of 12.2.3** and **POLICIES 12.2.4**

12.2.3 OBJECTIVES	
OBJECTIVE	PROPOSAL
12.2.3.1 To maintain and enhance the life supporting capacity of ecosystems and the extent and representativeness of the Districts indigenous biological diversity	Revegetation & restoration planting with weed/ pest control will greatly enhance condition, biodiversity and ecosystem services such as food provision, shading and connectivity through creation of “green infrastructure”. More diverse species through plant selection than current largely unpalatable depauperate flora
12.3.3.2 To provide for the protection of and to promote the active management of areas of significant indigenous vegetation and significant habitats of indigenous fauna.	Consideration of Regional Policy Statement Appendix 5 has established site vegetation & wetland to be significant .Extensive Management activities as before to be defined in the Weed and Pest Management Plan . Protective also of connectivity with Opua PNA and values of High Natural Character designation
12.2.3.4 To promote an ethic of stewardship.	WPMP applies to all Lots

12.2.4 POLICIES	
POLICY	PROPOSAL
12.2.4.1 That areas of significant indigenous vegetation and significant habitats of indigenous fauna be protected for the purpose of promoting sustainable management with attention being given to: (a) maintaining ecological values; (b) maintaining quality and resilience; (c) maintaining the variety and range of indigenous species contributing to biodiversity; (d) maintaining ecological integrity; and (e) maintaining tikanga Maori in the context of the above	(a) there is not any net loss in ecological value, rather a NET GAIN (b) quality will be improved through Restoration planting, as will resilience with pest and weed control (c) species diversity will be improved with respect to potential local species WF11 (d) integrity of the proposal site will be restored with pest and weed control, (e) beyond the scope of this report
12.2.4.2 That the significance of areas of indigenous vegetation be evaluated by reference to the criteria listed in Appendix 5 of the Northland Regional Policy Statement	YES
12.2.4.3 That adverse effects on areas of significant indigenous vegetation and significant habitats of indigenous fauna are avoided, remedied or mitigated by: (a) seeking alternatives to the disturbance of habitats where practicable; (b) managing the scale, intensity, type and location of subdivision, use and development in a way that avoids, remedies or mitigates adverse ecological effects; (c) ensuring that where any disturbance occurs it is undertaken in a way that, as far as practicable: (i) minimises any edge effects; (ii) avoids the removal of specimen trees; (iii) does not result in linkages with other areas being lost; (iv) avoids adverse effects on threatened species; (v) minimises disturbance of root systems of remaining vegetation; (vi) does not result in the introduction of exotic weed species or pest animals; (d) encouraging, and where appropriate, requiring active pest control and avoiding the grazing of such areas	(a) sites utilised are already impacted to avoid significant adverse effects (b) Extensive management proposed (c) YES (i) (ii) buffering and extending of vegetation (iii) minimal clearance areas and greater revegetation – positive effect (iv) pre earthworks check for kiwi weka (v) & D) WPMP applies to all Lots (b) none anticipated. Designating works envelope for contractors proposed in detailed design to ensure no spill over into futher areas (iv) As per management proposed Buffering pest control Pre works checks, contractors earthworks envelopes (v) as before a works envelope and best practice clearance of revegetation areas to retain soil capacity and stability (vi) biosecurity included as standard in WPMP (d) no grazing occurs & WPMP to apply to all Lots
12.2.4.4 That clearance of limited areas of indigenous vegetation is provided for	Designated clearance limited to already impacted areas
12.2.4.5 That the contribution of areas of indigenous vegetation and habitats of indigenous fauna to the overall biodiversity and amenity of the District be taken into account in evaluating applications for resource consents.	A substantial, diverse and protected contribution is proposed

12.2.4 POLICIES	
POLICY	PROPOSAL
12.2.4.7 That community awareness of the need and reasons for protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna be promoted	
12.2.4.8 That restoration and enhancement of indigenous ecosystems is based on plants that would have occurred naturally in the locality and is sourced from local genetic stock where practicable.	predicted potential ecosystem type WF11 refined according to topography
12.2.4.10 In order to protect areas of significant indigenous fauna: (a) that dogs (excluding working dogs), cats, possums, rats, mustelids and other pest species are not introduced into areas with populations of kiwi, dotterel and brown teal; (b) in areas where dogs, cats, possums, rats, mustelids and other pest species are having adverse effects on indigenous fauna their removal is promoted	No cats Dog controls as standard for Kiwi Present zone
12.2.4.12 That habitat restoration be promoted	Habitat improvement through planting and pest control
12.2.4.13 That the maintenance of riparian vegetation and habitats be recognised and provided for, and their restoration encouraged, for the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna, preservation of natural character and the maintenance of general ecosystem health and indigenous biodiversity	The ecological measures to be undertaken are purposely anticipated to achieve these
12.2.4.14 That when considering an application to clear areas of significant indigenous vegetation or significant habitats of indigenous fauna, enabling Maori to provide for the sustainable management of their ancestral land will be recognised and provided for by Council.	Outside scope

FNDC 12.2.7. ASSESSMENT CRITERIA

Consideration is given to the FNDC Discretionary Activity 12.2.7. Assessment Criteria-

12.2.7 ASSESSMENT CRITERIA	
(a) the significance of the area assessed using the criteria listed in Method 12.2.5.6 ;	Overall site has been assessed as per criteria Appendix 5 RPS which encompasses 12.2.5.6. criteria
(b) the location and scale of any activity and its potential to adversely affect the natural functioning of the ecosystem;	Clearance areas are allocated to be within poorer representation of overall site values. Planting, covenanting and associated management will protect remaining site ecosystems and introduce positive effects over the current situation which lacks pest control; is weed infested and lacks broad seed source or habitat provision other than for generalists.
(c) the potential effects on the biodiversity and life supporting capacity of the area;	The mitigation proposed specifies management that will ensure persistence and resilience of site ecosystems achieving best practice goal –“ <i>Impact management should enable maintenance or improvement of existing biodiversity</i> ” (EIANZ 2018).
(d) the extent to which the activity may adversely affect cultural and spiritual values;	Outside the scope of this reporting
(e) the extent to which the activity may impact adversely on visual and amenity values;	Outside the scope of this reporting
(f) the extent to which adverse effects on areas of significant indigenous vegetation and significant habitats of indigenous fauna are avoided, remedied or mitigated;	Effects have been controlled to a less than minor level through avoidance of high value areas, fire buffer replanting and WPMP to remediate and mitigate clearance and the degraded state in consideration in regard to the effects management hierarchy,
(g) the extent to which any proposed measures will result in the permanent protection of the area, and the long term sustainability of revegetation and enhancement proposals;	Covenanting and a Weed and Pest Management Plan WPMP to protect in perpetuity. Buffer planting to reduce edge effects which cause long term degradation; weed & pest control is designed to be undertaken by owners are primary activities to allow regeneration in this degraded environment.
(h) whether a voluntary agreement by a landowner to protect indigenous vegetation and/or habitats is registered with the Council;	Covenants
(i) Whether dogs, cats or mustelids will be excluded;	No cats, mustelids Dog controls as standard for Kiwi Present zone
(j) proposals for the re-establishment of populations of threatened species, either in areas where the species previously inhabited or other suitable habitat, and/or replanting or restoration of habitats and indigenous vegetation;	As per buffer planting all sites & WPMP
(k) the environmental effect of the increase in residential intensity and/or extra lots in relation to the benefits of achieving permanent legal protection of areas of significant indigenous vegetation and/or significant habitats of indigenous fauna;	Gross ecological benefit in the covenanting and pest/ weed control measure as per proposal
(l) the value of vegetation in protecting the life supporting capacity of soil, maintaining or improving water quality and reducing the potential for downstream siltation and flooding;	Wetland and headwater creek to be subject to weed and pest control and covenant Revegetation with varied root structure serves to anchor the substrate and encourages infiltration, reduces sheetflow and sediment movement/ erosion
(m) the extent to which the activity may adversely affect areas of known high density kiwi habitat;	Positive overall effect. The property is zoned Kiwi Present. Buffer planting, pest control and vegetation maintenance to enhance and maintain functional habitat as opposed to simply cover. No loss of overall habitat with buffer reduction. Kiwi check prior to siteworks. No cats or mustelids, dog controls including no contractors dogs
(n) the environmental effects of a proposed development in relation to the benefits of achieving permanent protection and/or management of areas of significant indigenous vegetation or significant habitats of indigenous fauna;	Protection and management achieved in perpetuity of significant indigenous habitats and vegetation onsite contiguous with Opuia PNA –Kawakawa River positive effect
(o) the extent to which there are reasonable alternatives to provide for sustainable management;	N/A

<i>(p)the extent to which the habitat policies of any national policy statement, the Regional Policy Statement for Northland and the District Plan are implemented;</i>	Refer planning application
<i>(q)the extent to which other animals or plants that will be introduced as a result of the application and may have a significant adverse effect on indigenous ecosystems are excluded or controlled;</i>	Pest control in perpetuity to address any increase in pests associated with domestic activity No cats or mustelids No contractors dogs Dog controls as per standard for Kiwi Present Zone
<i>r)the effectiveness of any proposed pest control programme.</i>	To be designed to be achievable by land owners and effective against both predators and grazers

CHAPTER 12.7 LAKES RIVERS WETLANDS AND THE COASTLINE

12.7.2 OUTCOMES EXPECTED	
OUTCOME	PROPOSAL
12.7.2.1 Use of lakes and rivers which is appropriate in terms of the preservation of the natural character and values of these areas	The proposal includes extensive planting to enhance natural character and includes protection mechanisms as appropriate to significance of these areas as habitat
12.7.2.2 Riparian margins are enhanced.	The proposal incorporates this as a key theme through WPMP and covenant
12.7.2.3 Activities on, or adjoining, the surface of water bodies are carried out in a way which avoids, remedies or mitigates adverse effects on the environment	Vegetation covenant encompassing all waterways Activities >100m setback saltmarsh in CMA and natural inland wetland
12.7.2.5 Enhanced public access to and along lakes, rivers and the coastal marine area	

Objectives are met which promote these outcomes:

12.7.3 OBJECTIVES	
OBJECTIVE	PROPOSAL
12.7.3.1 To avoid, remedy or mitigate the adverse effects of subdivision, use and development on riparian margins.	The hierarchy has been applied within the scope of the proposal
12.7.3.2 To protect the natural, cultural, heritage and landscape values and to promote the protection of the amenity and spiritual values associated with the margins of lakes, rivers and indigenous wetlands and the coastal environment, from the adverse effects of land use activities, through proactive restoration/rehabilitation/revegetation.	Revegetation of areas of impact to enhance existing vegetation and also establish new areas with pest and weed control in conjunction with Covenant in particular that contains the wetlands and nearshore in the CMA
12.7.3.6 To protect areas of indigenous riparian vegetation: (a) physically, by fencing, planting and pest and weed control;	Throughout the proposal
12.7.3.7 To create, enhance and restore riparian margins.	Planting and pest control will restore , revegetate with weed and pest control to improve overall condition

12.7.6.1.3 PRESERVATION OF INDIGENOUS WETLANDS

Any land use activity within an indigenous wetland of 200m² or more that does not change the natural range of water levels or the natural ecosystem or flora and fauna it supports is a permitted activity,

Aligned with PRPN Appendix H -Policy H.4.2 Minimum levels for lakes and natural wetlands:

There is no change in their seasonal or annual range in water levels.

The proposal is constructive in regard to assessment matters in 12.7.7 ASSESSMENT CRITERIA

12.7.7 ASSESSMENT CRITERIA	
CRITERIA	PROPOSAL
(a) the extent to which the activity may adversely affect cultural and spiritual values; (b) the extent to which the activity may adversely affect wetlands; (c) the extent to which the activity may exacerbate or be adversely affected by natural hazards; (d) the potential effects of the activity on the natural character and amenity values of lakes, rivers, wetlands and their margins or the coastal environment; (e) the history of the site and the extent to which it has been modified by human intervention; (f) the potential effects on the biodiversity and life supporting capacity of the water body or coastal marine area or riparian margins; (g) the potential and cumulative effects on water quality and quantity, and in particular, whether the activity is within a water catchment that serves a public water supply; (h) the extent to which any proposed measures will mitigate adverse effects on water quality or on vegetation on riparian margins; (i) whether there are better alternatives for effluent disposal; (j) the extent to which the activity has a functional need to establish adjacent to a water body; (k) whether there is a need to restrict public access or the type of public access in situations where adverse safety or operational considerations could result if an esplanade reserve or strip were to vest.	(a) outside scope of this report (b) avoidance has been implemented as key in the design through positioning of sites >100m distant wetland. Covenanting buffers wetland and saltmarsh (c) as per engineering detailed design Revegetation and amenity plantings will serve to reduce baseline runoff (d) no values given in the HNC designation considered to be at risk (e) Reduced species diversity and pest/ weed pressure in proposal areas (f) Addressed in Effects Management section. (g) incidental stormwater and sediment release during and post development to be addressed by engineering standards (h) as before (g) Covenant of remaining vegetation encompasses active hydrology and CSA in ephemeral gullies. Buffer planting & additional areas revegetation planting to provide a Net Gain over clearance. Extensive biodiversity introduction planting proposed will remedy historic clearance lack of seed source (i) n/a (j) n/a (k) outside scope

Through fidelity to matters in Chapter 12 it is considered that in turn *Coastal Environment Policies 10.4.1(b)* and *10.4.3.* are achieved

PROPOSED NORTHLAND REGIONAL PLAN

The site has been considered in regard to Northland Regional Policy Statement Appendix 5 (2018) in order to evaluate potential impact of the proposal. Appendix 5 criteria encompass those in **District Plan Methods 12.2.5.6** for evaluating significance. Consideration has also been given to further Northland focused recommendations for significance evaluation⁴⁵

⁴⁵ Wildlands (2019) Guidelines for the application of ecological significance criteria for indigenous vegetation and habitats of indigenous fauna in the Northland region.

F.1.3 INDIGENOUS ECOSYSTEMS AND BIODIVERSITY

CRITERIA	PROPOSAL
In the coastal marine area and in freshwater bodies, safeguard ecological integrity by:	
<i>1)protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna, and</i>	1) Covenant of remaining vegetation with pest and weed management plan
<i>2)maintaining regional indigenous biodiversity, and</i>	2) management of an area that has been identified as part of the wider Opuā PNA
<i>3)where practicable, enhancing and restoring indigenous ecosystems and habitats to a healthy functioning state, and reducing the overall threat status of regionally and nationally threatened or at risk species, and</i>	3). Buffer Revegetation planting to provide a Net Gain in biodiversity over clearance areas. Encompasses active hydrology and CSA in ephemeral gullies to near shore marine environment Biodiversity introduction planting proposed will remedy historic clearance lack of seed source
<i>4)preventing the introduction of new marine or freshwater pests into Northland and slowing the spread of established marine or freshwater pests within the region.</i>	4) Weed and pest management plan will encompass wetland and CMA in proposed Lots

PROPOSED NORTHLAND REGIONAL POLICY STATEMENT

The assessment considers the currently proposed Northland Regional Policy Statement

OBJECTIVE 3.4: INDIGENOUS ECOSYSTEMS AND BIODIVERSITY

Safeguard Northland's ecological integrity by:

- a) Protecting areas of significant indigenous vegetation and significant habitat of indigenous fauna*
- b) Maintaining the extent and diversity of indigenous ecosystems and habitats in the region; and*
- c) Where practicable, enhancing indigenous ecosystems and habitats, particularly where this contributes to the reduction in the overall threat status of regionally and nationally threatened species.*

The primary goal and methods of the proposal are closely aligned with the themes of Objective 3.4. Diverse revegetation and consolidation aims to increase and link habitat provision of the proposal site. The revegetation of more diverse species, weed and pest control within vegetation will promote heightened ecosystem function overall.

OBJECTIVE 3.15: ACTIVE MANAGEMENT

Maintain and/or improve

- a) The natural character of the coastal environment and freshwater bodies and their margins*
- d) Areas of significant indigenous vegetation and significant habitats of indigenous fauna(including those within estuaries and harbours)*

Objective 3.15(a)&(b) will be achieved by the provisions of the proposal- including revegetation, protection, maintenance & monitoring including ongoing pest control. These represent a proactive approach to habitat stewardship to ensure the proposals goal and sustainability.

4.4.1 POLICY – MAINTAINING AND PROTECTING SIGNIFICANT ECOLOGICAL AREAS AND HABITATS

(1) In the coastal environment, avoid adverse effects, and outside the coastal environment avoid, remedy or mitigate adverse effects of subdivision, use and development so they are no more than minor on:

(a) Indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists;

(b) Areas of indigenous vegetation and habitats of indigenous fauna, that are significant using the assessment criteria in Appendix 5;

(c) Areas set aside for full or partial protection of indigenous biodiversity under other legislation.

The proposal has addressed adverse effects including directly relating to threatened and at species to a level deemed *VERY LOW* as per EIANZ guidelines which correlates to a less than minor effect. Positive effects are also resultant.

NEW ZEALAND COASTAL POLICY STATEMENT (2010)

The proposal shows fidelity with primary objectives of the NZCPS to achieve sustainable management of the natural and physical resources in regard to the development.

POLICY	PROPOSAL
<p>POLICY 11: INDIGENOUS BIOLOGICAL DIVERSITY (BIODIVERSITY) To protect indigenous biological diversity in the coastal environment:</p> <p>(a) avoid adverse effects of activities on:</p> <p>(i) indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists;</p> <p>(ii) taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;</p> <p>(iii) indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare;</p> <p>(iv) habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;</p> <p>(v) areas containing nationally significant examples of indigenous community types; and</p> <p>(vi) areas set aside for full or partial protection of indigenous biological diversity under other legislation; and</p> <p>(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on:</p> <p>(i) areas of predominantly indigenous vegetation in the coastal environment;</p> <p>(ii) habitats in the coastal environment that are important during the vulnerable life stages of indigenous species;</p> <p>(iii) indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh;</p> <p>(iv) habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes;</p> <p>(v) habitats, including areas and routes, important to migratory species; and</p> <p>(vi) ecological corridors, and areas important for linking or maintaining biological values identified under this policy.</p>	<p>A) These have been recognised and addressed through the course of the project with preemptive avoidance measures taken supported by remediation of the open degraded state and ongoing requirement for weed and pest management, controls on dogs and cats, and bush protection Covenants</p> <p>B) The effects management hierarchy has been addressed throughout the design with emphasis on avoidance.</p> <p>The coast includes <i>B(ii) habitats important during the vulnerable stages of indigenous species</i> as fish habitat and uncontrolled disturbance through public access is not recommended</p> <p>(v) protection of saltmarsh/ wetland habitat as habitat of diamondrous fish species potentially Threatened & At Risk birds as identified in SBA & CBA mapping</p> <p>(vi) The increase in abundance and diversity of vegetation with pest control will increase functionality as corridor to mobile species</p>
<p>POLICY 14 RESTORATION OF NATURAL CHARACTER Promote restoration or rehabilitation of the natural character of the coastal environment, including by :</p> <p>(a) identifying areas and opportunities for restoration or rehabilitation;</p> <p>(b) providing policies, rules and other methods directed at restoration or rehabilitation in regional policy statements, and plans;</p> <p>(c) where practicable, imposing or reviewing restoration or rehabilitation conditions on resource consents and designations, including for the continuation of activities; and recognising that where degraded areas of the coastal environment require restoration or rehabilitation, possible approaches include:</p> <p>(i) restoring indigenous habitats and ecosystems, using local genetic stock where practicable; or</p> <p>(ii) encouraging natural regeneration of indigenous species, recognising the need for effective weed and animal pest management; or</p> <p>(iii) creating or enhancing habitat for indigenous species; or</p> <p>(iv) rehabilitating dunes and other natural coastal features or processes, including saline wetlands and intertidal saltmarsh; or</p> <p>(v) restoring and protecting riparian and intertidal margins; or</p> <p>(vi) reducing or eliminating discharges of contaminants; or</p> <p>(vii) removing redundant structures and materials that have been assessed to have minimal heritage or amenity values and when the removal is authorised by required permits, including an archaeological authority under the Historic Places Act 1993; or</p> <p>(viii) restoring cultural landscape features; or</p> <p>(ix) redesign of structures that interfere with ecosystem processes; or</p> <p>(x) decommissioning or restoring historic landfill and other contaminated sites which are, or have the potential to, leach material into the coastal marine area.</p>	<p>Area identified throughout the design process include waterways including ephemeral and wetlands and remaining indigenous vegetation to be protected and enhancement with concomitant pest control to ensure functionality of habitat and ecosystem processes.</p> <p>Approaches used will include C(i) – (v) as appropriate</p>

Archaeological Assessment of Effects:
154 Te Raupo Road, Opua
16 October 2024

Commissioned by: Stephen Mason
TERRÔIR LTD

Prepared By: Geometria
PO Box 34-487
Birkenhead
Auckland 0746

Geometria



Executive Summary

Geometria was engaged by Stephen Mason to undertake an archaeological assessment of effects for the subdivision of 154 Te Raupo Road, Opuā, (Allotment 271 Parish of Kawakawa and Lot 1 DP 604018) into Lots 1, 2, and 3, including two proposed house sites.

The area has pre-, proto-, and historical interest for Whangāe's and Kawakawa's heritage and there are two recorded archaeological sites in close proximity to the subject property as well as a Site of Cultural Significance located nearby which is scheduled in the Far North District Council Operative Plan and includes Pumuka's Pā and an urupā. An inspection of proposed house sites and accessways identified one archaeological feature that had been modified by the existing driveway at 154 Te Raupo Road. This feature was added to the recorded site Q05/895 and will not be further modified by the proposed development.

There is a small possibility that subsurface archaeological remains or buried cultural deposits may still be encountered on the property during construction of the two dwellings and associated services and accessways or in the course of other ground disturbing activity on the property and if these are encountered an accidental discovery protocol should be followed and HNZPT and Geometria Ltd. should be contacted.

0.1 Quality Information

Document: Archaeological Assessment of Effects of 154 Te Raupo Road, Opuā

Ref: 2024-405

Date: 22 October 2024

Prepared by: G. Kerby

0.2 Revision History

Revision	Revision Date	Details	Authorised Name
Draft	20 September 2024	G. Kerby	
Final	22 October 2024		J. Carpenter

0.3 Glossary

Classic	The later period of New Zealand settlement
Midden	The remains of food refuse usually consisting of shells, and bone, but can also contain artefacts
Pa	A site fortified with earthworks and palisade defences
Pit	Rectangular excavated pit used to store crops by Māori
Terrace	A platform cut into the hill slope used for habitation
Wahi tapu	Sites of spiritual significance to Māori

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File ref.: 2024-405_154_Te_Raupo_Road_Archaeological_Assessment_of_Effects

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1.0 Introduction

Geometria was engaged by Stephen Mason to undertake an archaeological assessment of effects for the subdivision of 154 Te Raupo Road, Opuā, (Allotment 271 Parish of Kawakawa and Lot 1 DP 604018) into proposed Lots 1, 2, and 3 (Figures 1-3). There are two proposed house sites, one on Lot 1 and one on Lot 2 (Figure 3), each with new accessways and services. An existing accessway runs through the middle of the lots to a neighbouring property, from which tracks run to each proposed house site as well as an existing driveway leading to a barn on Lot 3.

This assessment uses archaeological techniques to assess archaeological values and does not seek to locate or identify wahi tapu or other places of cultural or spiritual significance to Māori. Such assessments may only be made by Tangata Whenua, who may be approached independently of this report for advice.

Likewise, such an assessment by Tangata Whenua does not constitute an archaeological assessment. Permission to undertake ground disturbing activity on and around archaeological sites and features may only be provided by Heritage New Zealand Pouhere Taonga (HNZPT), and may only be monitored or investigated by a qualified archaeologist approved through the archaeological authority process.

1.1 The Heritage New Zealand Pouhere Taonga Act 2014

Under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA; previously the Historic Places Act 1993) all archaeological sites are protected from any modification, damage or destruction except by the authority of the Historic Places Trust. Section 6 of the HNZPTA defines an archaeological site as:

- "(a) any place in New Zealand, including any building or structure (or part of a building or structure), that—
- (i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and
 - (ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and
- (b) includes a site for which a declaration is made under section 43(1)"

To be protected under the HNZPTA an archaeological site must have physical remains that pre-date 1900 and that can be investigated by scientific archaeological techniques. Sites from 1900 or post-1900 can be declared archaeological under section 43(1) of the Act.

If a development is likely to impact on an archaeological site, an authority to modify or destroy this site can be sought from the local Heritage New Zealand Pouhere Taonga office under section 44 of the Act. Where damage or destruction of archaeological sites is to occur Heritage New Zealand usually requires mitigation. Penalties for modifying a site without an authority include fines of up to \$300,000 for destruction of a site.

Most archaeological evidence consists of sub-surface remains and is often not visible on the ground. Indications of an archaeological site are often very subtle and hard to distinguish on the ground surface. Sub-surface excavations on a suspected archaeological site can only take place with an authority issued under Section 56 of the HNZPTA issued by the Heritage New Zealand.

1.2 The Resource Management Act 1991

Archaeological sites and other historic heritage may also be considered under the Resource Management Act 1991 (RMA). The RMA establishes (under Part 2) in the Act's purpose (Section 5) the matters of national importance (Section 6), and other matters (Section 7) and all decisions by a Council are subject to these provisions. Sections 6e and 6f identify historic heritage (which includes archaeological sites) and Māori heritage as matters of national importance.

Councils have a responsibility to recognise and provide for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wahi tapu, and other taonga (Section 6e). Councils also have the statutory responsibility to recognise and provide for the protection of historic heritage from inappropriate subdivision, use and development within the context of sustainable management (Section 6f). Responsibilities for managing adverse effects on heritage arise as part of policy and plan preparation and the resource consent processes.

2.0 Location

Allotment 271 Parish of Kawakawa and Lot 1 DP 604018 are located two kilometres south of Opuā and six kilometres northeast of Kawakawa, on the southern side of the peninsula of land (known as Te Raupo) between the Whangāe and Kawakawa Rivers (Figure 1). The property is 21.2147ha in size and located off a private access from Te Raupo Road, ranging from 10 to 55m above sea level. The western edge of the property is bounded by the route of the historic Kawakawa to Opuā railway, the south by steep slopes to the shores of the Kawakawa River and the north and east boundaries connect to private land. The majority of the property is covered in twenty-year-old regenerating native forest with older native forest on the steeper slopes and gullies. Part of Lot 3 includes an existing driveway, barn with deck and gently planted garden. The underlying geology comprises greywacke of the Waipapa group sandstone and mudstone (Petty 1981).

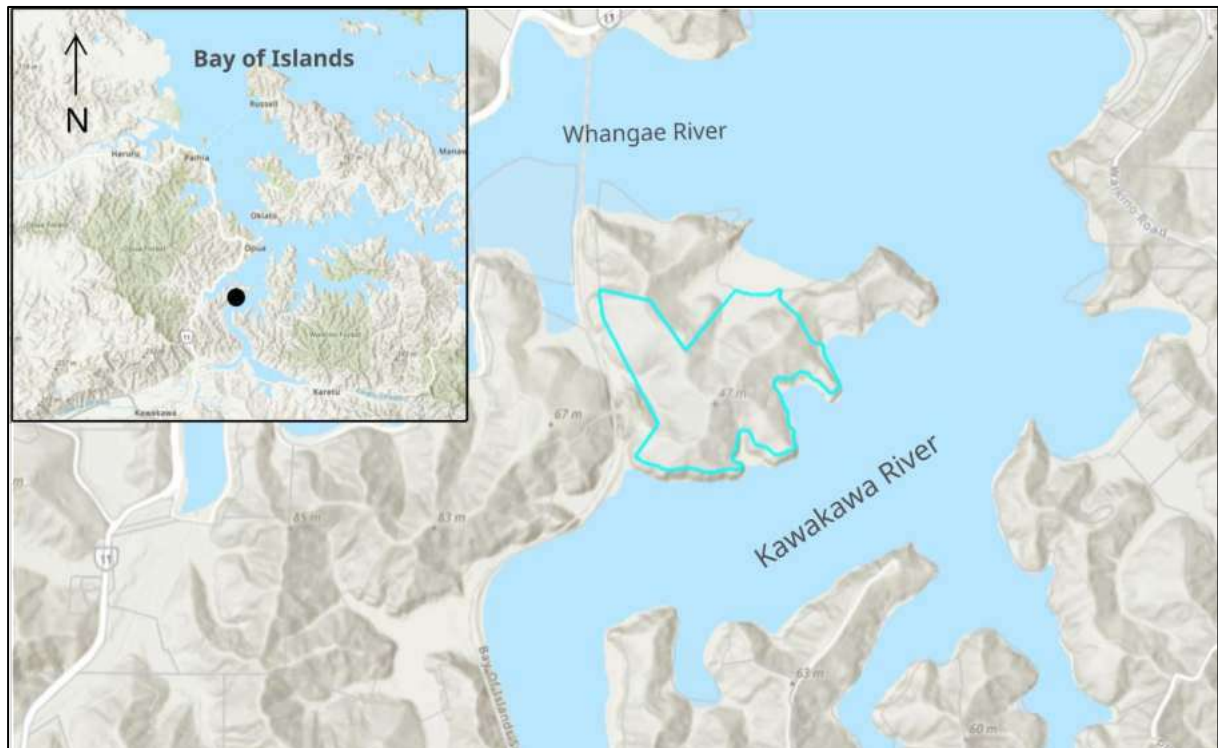


Figure 1. Location of subject property, 154 Te Raupo Road, Opuā, outlined in light blue. LINZ.

3.0 Proposed Development

The proposed development is the subdivision of 154 Te Raupo Road, Opuā, (Allotment 271 Parish of Kawakawa and Lot 1 DP 604018) into Lots 1, 2, and 3 (Figures 2-3) including one house site on Lot 1 and one house site on Lot 2 (Figure 3), each with associated services such as water tanks and septic systems and improved accessways off the existing main metalled accessway that runs from Te Raupo Road through the subject property and to the neighbouring properties at the northeast end of the peninsula (Easements A, B, C, and part of D on Figure 2). On Lot 2, the new metalled driveway labelled as Easement C (Figure 2) has already been constructed leaving the existing accessway to be developed for the proposed house site. On Lot 3 there is already an existing metalled driveway leading to a barn and garden, from which a new cut has been made for Easement D (Figure 2). No further development of Lot 3 is expected as part of this project.

Ground disturbing activities will be associated with vegetation clearance, possible levelling of the proposed house sites and new accessways and preparation for installation of services such as water and septic systems.



Figure 2. Proposed subdivision.

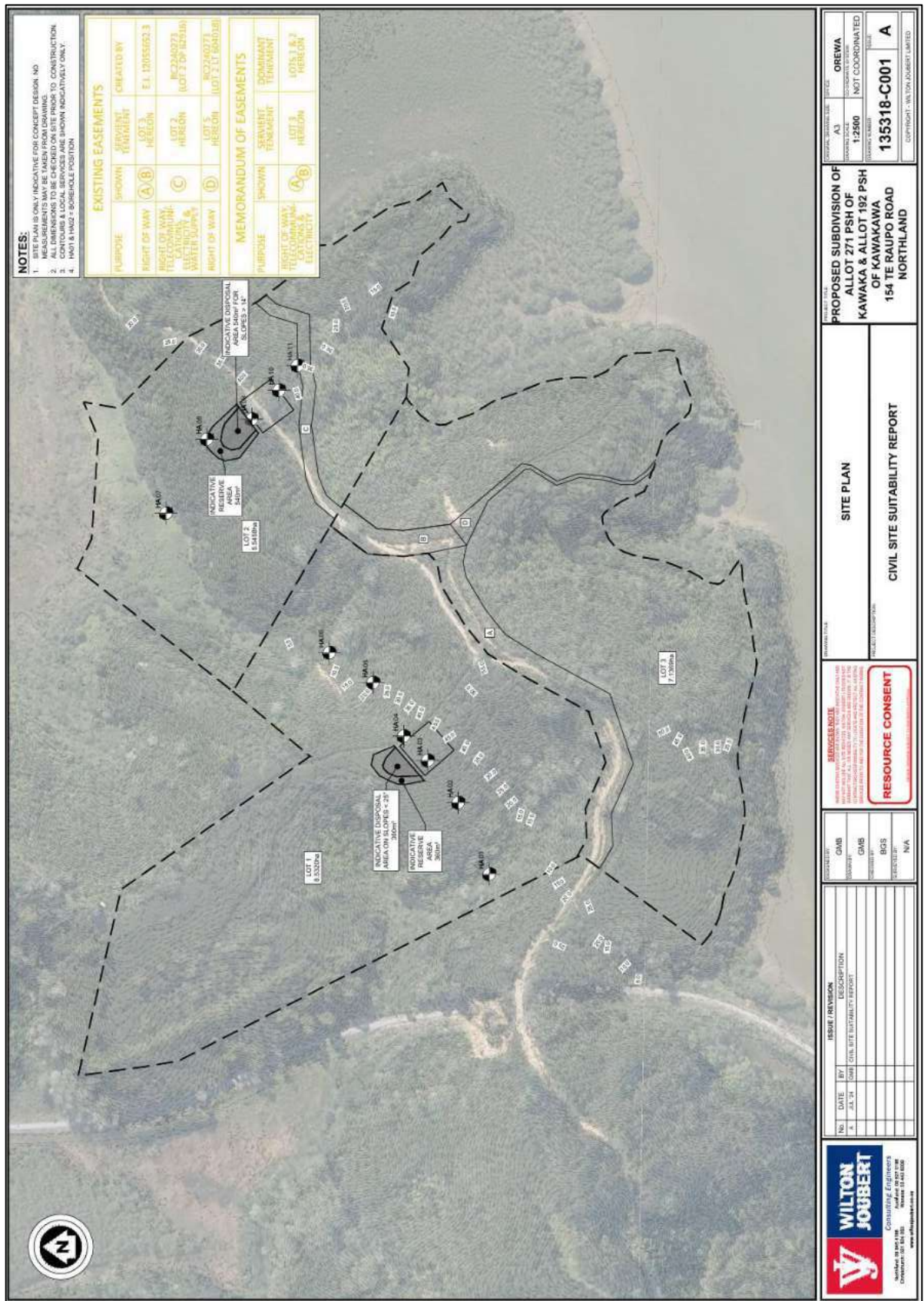


Figure 3. Proposed building locations.

4.0 Methodology

The methods used to assess the presence and state of archaeological remains on the property included both a desktop review and field survey. The desktop review involved an investigation of written records relating to the history of the property. These included regional archaeological publications and unpublished reports, New Zealand Archaeological Association Site Record Files from the ArchSite website, and land plans held at Land Information New Zealand. The field survey involved walking over the ground at the sites of proposed development. Spade test pitting and probing were not used owing to the minimal level of topsoil.

5.0 Historical and Archaeological Contexts

5.1 Historical Background

In the early to mid-1700s, Hokianga Ngāpuhi conquered Ngātiawa in the central Bay of Islands and gradually moved wider through the Bay of Islands, including Whangāe, by the early 1800s through marriage and battle (McCracken 1994). The history of the wider Bay of Islands has been published in great detail and will not be explored in this report. Bedford *et al.* (1992) and McCracken (1994) also provide a good background to Te Raupo and Whangāe.

The early inhabitants of Whangāe and their, probably seasonal, settlement in this location appears to have been on tidal sand flats around the sheltered spurs jutting into the Whangāe and Kawakawa Rivers (Nevin 1984); a landscape which has changed largely in the last century due to mangrove growth, erosion and river siltation. In the first decades of the 1800s, life at Whangāe began to change as small trading vessels that had previously focused on trade in the central Bay of Islands started to explore Kororāreka and the Kawakawa River, notably for timber trade, offering opportunities and encouraging more permanent settlement in the area (Lee 1983; McCracken 1994).

Significant sites near Whangāe include Pomare's Pa at Otuihu which occupied after the 1830 'Girls War' and was a base during the 1840s land wars, but was sacked in 1845 (Q05/398 SRF). Months following this, the British troops travelled up the Kawakawa River and started their land march to Ruapekapeka via Taumarere using Māori tracks over Te Raupo Peninsula (Nevin 1984:34). Pumuka was a Te Roroa chief who lived in Paihia at the Church Missionary Society at least by 1828 (McCracken 1994). In 1831, Pumuka organised a road to be built between Paihia and Whangāe to assist the Missionaries in their work (McCracken 1994). It is likely that built his pa at Whangāe around the same time Pomare II was at Otuihu, following the 1830 'Girls War' with Titore of Kororāreka.

In 1839, Pumuka sold the land next to his own land at Whangāe, the Te Kohi (Te Raupo) block (ML 946 and ML 271; to the northwest of the subject property), to John Church, although J. Church died soon after. Pumuka was killed fighting British forces at Kororāreka in 1845 and in 1867 the Land Court granted the Te Raupo block to Pumuka's descendants (Bedford *et al.* 1992). It remains unclear whether Pumuka built the pa himself or adopted a pre-existing settlement (McCracken 1994). The much larger surrounding Kawakawa North block, on which the subject property and Pumuka's pa itself are sited, was sold to the Crown by Maihi Paraone Kawiti in 1859 (ML 946). Little development has occurred on the south and eastern sides of Whangāe Peninsula since then. While the Peninsula was previously covered in native forest (Bedford *et al.* 1992:2), several attempts to clear and farm the land have occurred in the historic period, most recently evident in the 1953 aerial imagery (Figure 4). Native forest is now regenerating over most of the undeveloped areas of the Peninsula.



Figure 4. Close up of aerial imagery from 23/10/1953 with subject property parcel in light blue. Retrolens SN209 547 71.

5.2 Archaeological Context

The Bay of Islands is an area rich in pre-, proto- and historic heritage with dense archaeological sites on the coast significant at both local and national scales. The majority of these sites are middens, followed by midden/terrace/pit combined sites and pa, reflecting the importance of the coastline as a food source and a location for habitation and interaction. More specifically, archaeological sites along the Kawakawa River, including Whangae, follow this wider pattern and include several pā on high points overlooking the river, several of which related to various skirmishes in the early to mid-1880s, as well as the Whangae railway infrastructure such as wharf remains and the 1884 bridge relating to the historic rail line.

A review of ArchSite, the national database of recorded archaeological sites, managed by the New Zealand Archaeological Association (NZAA) has identified two recorded archaeological sites on the subject property and two within 100m of the subject property (Table 1, Figure 8, Appendix A). The two sites on the subject property are Q05/895: Midden/Pit and Q05/896: Midden. Both were recorded by G. E. Nevin in 1984 during a widespread survey of the coastal Bay of Islands with the aim of recording and classifying all of the archaeological sites in the area over a four month period (Nevin 1984). Nevin (1984: 56) describes the location of many of the shell middens identified along the Waikino and Waikari Inlets and the Kawakawa River as being on flat sand spits or beach terraces about 1m above high tide and sheltered by high ridges, although these sandy terraces were noted to be smaller, less numerous, and fringed by mangroves along the Kawakawa River. The two midden sites closest to the subject property were recorded within the Esplanade Reserve. Note their locations on the SRF map (Appendix A) differ slightly to those indicated on the ArchSite map (Figure 5). A small sketch is included in the site record form for Q05/895 (Appendix A), showing the midden on the east side of the south projecting point where the current barn at 154 Te Raupo Road is built.

Q05/895 (N15/295) was located “on southern side of Te Raupo peninsula – see location map” (Appendix A) and consisted of two areas of shell midden and a pit- “a) is a solid mass of shells up to 35cm deep along approx. 25m of flat (up to 1m above tidal edge) 60% cockle- *Chione stutchburyi* (24-36mm) 40% pipi- *Paphies australis* (39-60mm)...also a 2.3m dia. Circular pit on this flat. b) on the south side a midden 20x8m has eroded down the hillside...95% pipi (50-61mm) 5% cockle (30-45mm).”

Q05/896 (N15/296) was located on the “first point east of the railway on Te Raupo Peninsula when travelling north to Opuā” and consisted of two areas of shell midden- “a) on flat at tidal edge - 8m long midden with charcoal bands. About 9 different layers of shell...cockles...b) on top of this ridge-end, there is an 8x15m downhill scatter of crushed/broken midden- 50% cockle : 50% pipi – in black soil.”

In 1992 Bedford *et al.* undertook a survey of the Whangāe Peninsula for the Historic Places Trust organised by residents of Te Raupo. Their work identified a further 14 middens, 8 terraces and an urupā, as well as a detailed map of Pumuka’s Pā (Q05/893) on the northeastern headland adding 31 terraces and 18 middens to the site originally recorded in Nevin’s 1984 survey.

Table 1. Recorded archaeological sites within 100m of 154 Te Raupo Road.

Site Number	NZTM Coordinates	Type	Description
Q05/893	E 1701183 N 6089626	Terraces/middens	31 Terraces, Pumuka’s Pā
Q05/895	E 1701084 N 6089226	Midden/pit	Shell midden deposits and pit on tidal edge & hillside
Q05/896	E 1700984 N 6089226	Midden	Shell midden deposits on tidal edge & hillside
Q05/1551	E 1700655 N 6089201	Whangāe Tunnel	Brick rail tunnel

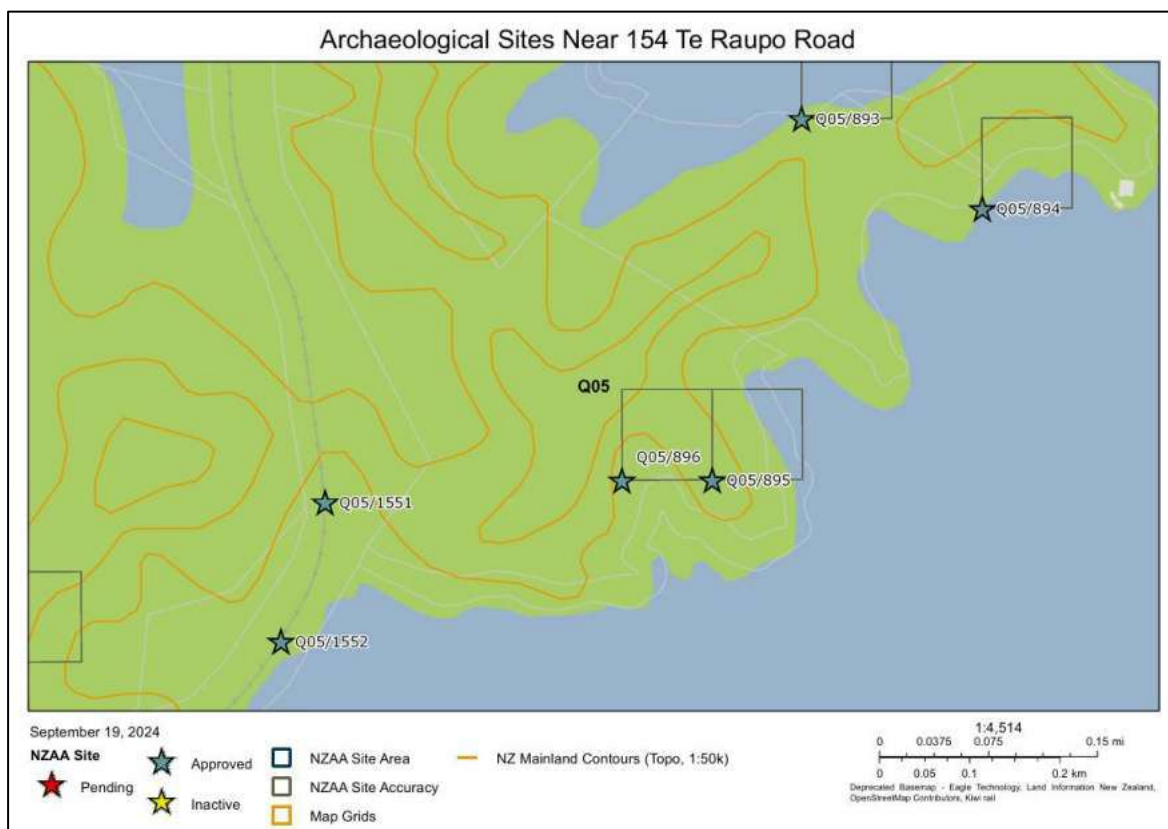


Figure 5. Archaeological sites recorded on and near the subject property. Archsite 2024.

5.2.1 Previous Archaeological Work

No previous archaeological work has been undertaken on the planned location of works.

5.3 Other Heritage Sites and Features

The Far North District Plan, the New Zealand Heritage List/Rārangi Kōrero, historic and modern aerial imagery, and land plans were consulted. Both Pumuka's Pa and an urupā in Te Raupo are scheduled as number MS10-09 Site of Significance to Māori in the Far North District Plan (Figure 6; FNDC 2019). Note the location of Pumuka's Pa here is different to the archaeological site location as recorded by Nevin (1984) and Bedford *et al.* (1992). There are no other registered historic places on or in the vicinity of the planned location of works.

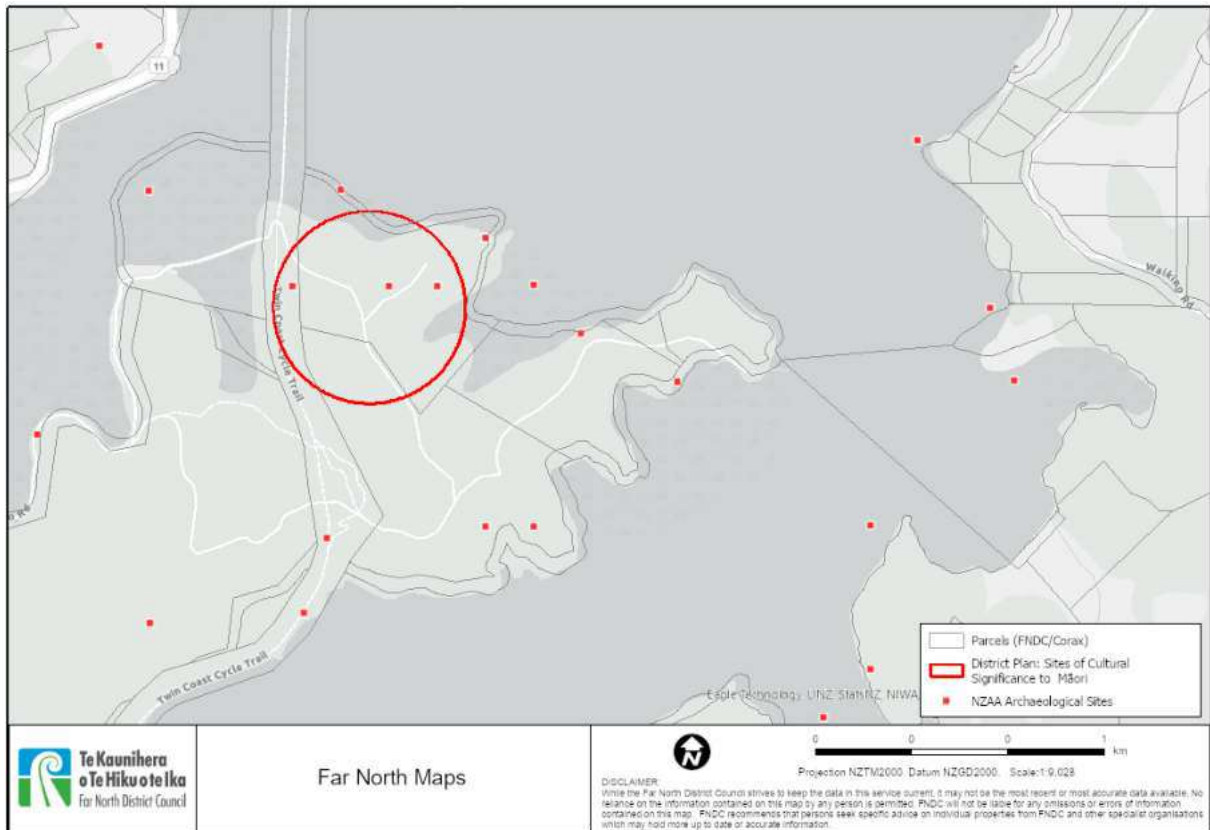


Figure 6. Scheduled Site of Cultural Significance to Māori MS10-09 “Te Raupo/Pumuka's Pa & waahi tapu”. FNDC Operative Map 36.

6.0 Site Inspection

Georgia Kerby of Geometria visited the subject property on 18 September 2024 and carried out a field survey. The majority of the ground surface, where not covered in leaf litter and moss, exhibited a very thin layer of topsoil or the bare clay below, particularly in areas such as the accessways and proposed house site on Lot 2 where vegetation had been cleared previously and little regrowth had occurred. This meant that archaeological deposits were likely to be exposed on the surface of the clay strata and probing and spade testing were not useful. On the proposed house site for Lot 1 and the slopes surrounding the proposed house site for Lot 2, both access and ground visibility were difficult owing to the density of regenerated native forest and steep terrain (Figures 8, 9, 12).

The proposed house site for Lot 1 was located slightly downhill north of the highest point on the property. It was accessed by a narrow track, coming off a bare clay driveway connected at both ends to the main metalled driveway through the property (Figures 7-8). While vegetation on the proposed house site had been cleared previously, the entire site had regrown with regenerating manuka/kanuka and gorse (Figures 8-9). The proposed house site and indicative disposal and reserve areas (marked in Figure 3) sloped downhill gently to the northwest of the track. Approximately 10m either side of the track was explored on foot as well as the accessway and any spoil deposited either side of the accessway were sighted (Figure 17) and no archaeological features or material were visible.

The proposed house site for Lot 2 was similarly located off a bare clay driveway from the main metalled drive and was sited on the highest point of the Lot with a slight plateau with gentle downhill slopes to the west and south

and steeper slopes to the north and east. A wider area of cleared land was visible at the proposed house site (Figures 10-11). Again, approximately 10m to the northwest and southeast of the plateau was explored on foot and the de-vegetated sides of the driveway were sighted (Figure 17) and no archaeological features or material were visible. The new accessway to the neighbouring property through Lot 2 (Easement C, Figure 3) had already been constructed and metalled. No archaeological features or material were visible in the cut bank or in the spoil piles from this accessway.

On Lot 3, a short, 4m long, 10-20cm thick lens of scattered pipi and cockle midden was evident in a cut bank for the existing barn driveway at 154 Te Raupo Road (Figure 13), although shell was not evident in a drain cut into the bank about 1m back. Complete and fragmented shell was also loosely scattered around the gardens of the barn and alongside the metalled driveway (Figure 14). Some of this had likely been scattered by the formation of the driveway and spreading of available topsoil but shell in unmodified areas like the front (south) garden likely had eroded or been washed down the slope from a higher deposit. Examination of recent aerial imagery available on Google Earth suggested that some form of access down the ridgeline had been formed by 2004 if not earlier, and the current driveway and building platforms have been cleared in the period 2016-2018, however the batter below the midden has been scraped relatively recently based on the lack of weathering evident on the clay below the level of the shell.

Part of a new accessway (Easement D, Figure 3) had also been constructed off the metalled driveway to the existing barn (Figure 15). A small but fairly dense concentration of pipi and cockle shell midden as well as a light scatter throughout was visible in spoil at the second bend of Easement D (Figures 16-17) suggesting relatively recent modification of the site. No further shell was evident in the cut bank nor on any of the slopes surrounding this area.



Figure 7. Looking northeast to Lot 1 accessway from main metalled accessway.



Figure 8. Looking northwest to Lot 1 proposed house site with track accessway.



Figure 9. Slope north of Lot 1 proposed house site with regenerating manuka.



Figure 10. Looking northeast to accessway to Lot 2 proposed house site.



Figure 11. Lot 2 proposed house site.



Figure 12. North slope off Lot 2 proposed house site.



Figure 13. Shell midden lens in existing driveway cut, Lot 3.



Figure 14. Shell scatter in south garden of existing building, Lot 3.



Figure 15. New accessway (Easement D), Lot 3, looking northwest with midden in midground.



Figure 16. Altered shell midden in spoil from new accessway (Easement D), Lot 3.

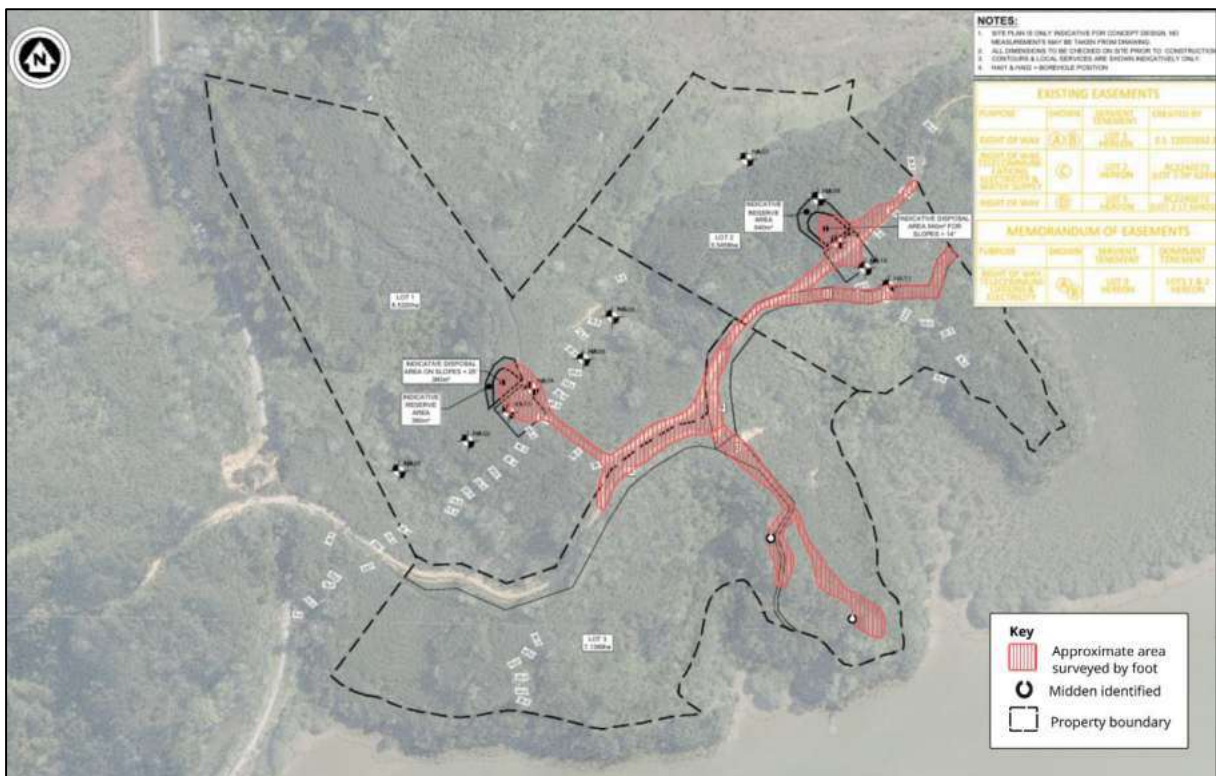


Figure 17. Approximate extent of area surveyed on foot in relation to planned development (Subdivision Plan by Wilton Joubert). Scale 1:2500.

7.0 Assessment of Archaeological Significance

HNZPT has provided guidelines setting out criteria that are specific to archaeological sites. The archaeological values of sites relate mainly to their information potential, that is, the extent to which they can provide evidence relating to local, regional and national history through the use of archaeological investigation techniques, and the research questions to which the site could contribute. The surviving extent, complexity and condition of sites are the main factors in their ability to provide information through archaeological investigation.

7.1 Assessment Criteria

Archaeological significance will be measured using the following criteria.

The first set of criteria assess the potential of the site to provide a better understanding of New Zealand's past using scientific archaeological methods. These categories are focussed on the intra-site level.

How complete is the site? Are parts of it already damaged or destroyed?

A complete, undisturbed site has a high value in this section, a partly destroyed or damaged site has moderate value and a site of which all parts are damaged is of low value.

How diverse are the features to be expected during an archaeological excavation on the site? A site with only one or two known or expected feature types is of low value. A site with some variety in the known or expected features is of moderate value and a site like a defended kainga which can be expected to contain a complete feature set for a given historic/prehistoric period is of high value in this category.

How rare is the site? Rarity can be described in a local, regional and national context. If the site is not rare at all, it has no significance in this category. If the site is rare in a local context only it is of low significance, if the site is rare in a regional context, it has moderate significance and it is of high significance if the site is rare nationwide.

The second set of criteria puts the site into its broader context: inter-site, archaeological landscape and historic/oral traditions.

What is the context of the site within the surrounding archaeological sites? The question here is the part the site plays within the surrounding known archaeological sites. A site which sits amongst similar surrounding sites without any specific features is of low value. A site which occupies a central position within the surrounding sites is of high value.

What is the context of the site within the landscape? This question is linked to the one above, but focuses onto the position of the site in the landscape. If it is a dominant site with many features still visible it has high value, but if the position in the landscape is ephemeral with little or no features visible it has a low value. This question is also concerned with the amenity value of a site and its potential for on-site education.

What is the context of the site within known historic events or people? This is the question of known cultural association either by tangata whenua or other descendant groups. The closer the site is linked with important historic events or people the higher the significance of the site. This question is also concerned with possible commemorative values of the site.

An overall significance value derives from weighing up the different significance values of each of the six categories. In most cases the significance values across the different categories are similar.

HNZPT has provided guidelines setting out criteria that are specific to archaeological sites (HNZPT 2006:9-10). The archaeological values of sites relate mainly to their information potential, that is, the extent to which they can provide evidence relating to local, regional and national history through the use of archaeological investigation techniques, and the research questions to which the site could contribute. The surviving extent, complexity and condition of sites are the main factors in their ability to provide information through archaeological investigation.

7.2 Significance Assessment of Midden Feature (Q05/895)

The archaeological values of the midden remains found on the subject property are assessed below (Table 2). Based on the criteria noted above, the midden has been determined to be of low archaeological significance. It is in poor and eroded condition, has little scientific information to add to the extensive midden remains in the area, and has negligible amenity value, although it still retains a connection to local Māori and their history. It appears to have been disturbed by previous land alterations for residential development in the surrounding area and may not be in its original context, meaning that much information has been lost already.

Table 2: Values assessment for part of Q05/895

Significance Category	Value and Comment
Integrity, Condition and Information Potential	Low: In poor condition with some erosion apparent and is probably a small redeposited remnant of a larger disturbed midden.
Diversity	Low: No stratification, low density deposit, but has shell and possibly charcoal that may have information potential via archaeological recovery.
Rarity and Uniqueness	Low: Shell middens, often of much larger size and density, are a common site type around the Kawakawa River, although fewer on the southeast side of Te Raupo.
Archaeological Context	Low: The midden may relate to or pre-date occupation of Pumuka's Pā but there are other middens nearby and that relate to the Pā. The surrounding area is relatively unmodified by residential development.
Landscape Context and Amenity Value	Low: There is little amenity value and access is limited at the rear of a private property.
Historical Associations and Community Connections	Low: The feature may relate to occupation of or before Pumuka's Pā. With the exception of the Tangata Whenua, the local community in general does not value coastal midden in general.

8.0 Assessment of Effects

Earthworks associated with the subdivision of 154 Te Raupo Road, Opuā, and construction of two proposed house sites and associated accessways and services are not expected to modify any archaeological sites. One archaeological feature was located on the subject property through the site survey and added to the record for archaeological site Q05/895, but will not be affected by the current proposal. Therefore an archaeological authority under Section 44 of the Heritage New Zealand Pouhere Taonga Act 2014 is not required. There are no other historic heritage effects.

However some site damage has occurred previously, when the existing driveway or earlier track through proposed Lot 3 was formed. Additional site damage may have occurred from the most recent access track construction but it is not clear if the observed midden was freshly disturbed, or redeposited from earlier disturbed material. Its value has been assessed to be of low significance and its contents do not appear to differ to the rest of site Q05/895.

Owing to the historic importance of the surrounding area and the proximity of an important pā site, it is possible (albeit unlikely) that archaeological remains or buried cultural deposits may be encountered on parts of the property during construction or in the course of other ground disturbing activity on the property like trenching for services, such as layers of shell midden, charcoal-rich or burned soils, oven stones, artefacts like worked stone, bottles, ceramics, iron or building materials, or other unusual cuts/fills etc. If such deposits are encountered the client or their agents should cease work within 10m of the suspected feature and Heritage New Zealand Pouhere Taonga (HNZPT) and Geometria Ltd should be contacted for advice on how to proceed.

9.0 Findings and Recommendations

1. An archaeological site or feature was identified on the property and added to the record of archaeological site Q05/895. However, this site is not expected to be modified by the proposed subdivision and development, and it should be avoided by any future works such as landscaping etc.
2. Features recorded as part of Q05/895 have been modified without an archaeological authority, prior to S. Mason's purchase of the property. Additional modification may have occurred more recently. Further modification is not expected to occur by the proposed development.
3. Otherwise, no known archaeological sites or features are expected to be modified by the proposed development.
4. Ground works should be undertaken under a standard accidental archaeological discovery protocol (ADP) and if any potential archaeological remains or buried cultural deposits are encountered on the property during preparation of the building sites, construction of the accessways and planting activities or in the course of other ground disturbing activity on the property work should cease within 10m of the suspected feature and Heritage New Zealand Pouhere Taonga (HNZPT) and Geometria Ltd. should be contacted for advice on how to proceed.

10.0 Conclusions

Geometria was engaged by Stephen Mason to undertake an archaeological assessment of effects for the subdivision of 154 Te Raupo Road, Opuā, (Allotment 271 Parish of Kawakawa and Lot 1 DP 604018) into Lots 1, 2, and 3, including two proposed house sites.

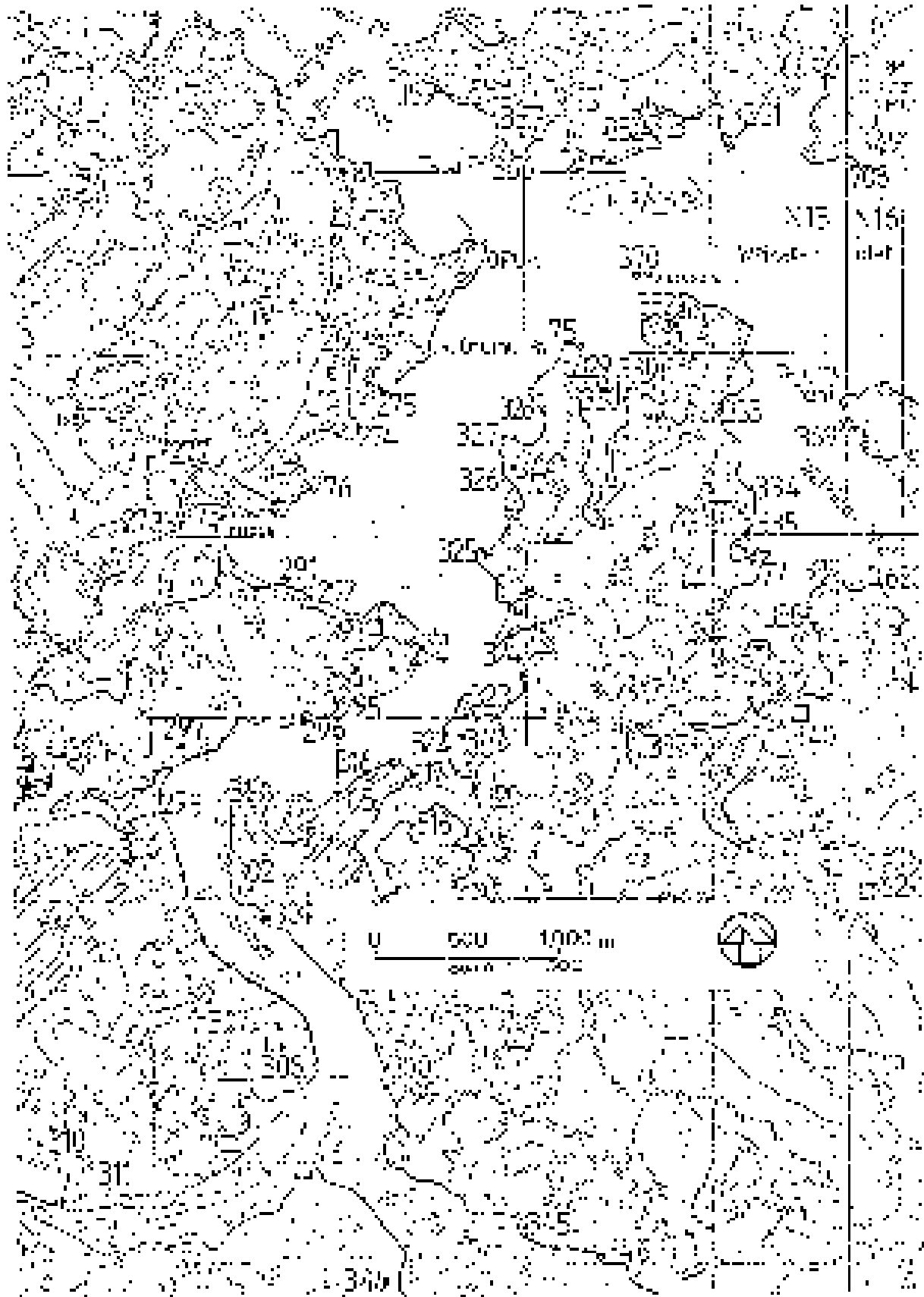
The area has pre-, proto-, and historical interest for Whangāe's heritage and there are two recorded archaeological sites in close proximity to the subject property as well as a Site of Cultural Significance located nearby which is registered in the Far North District Council Operative Plan and includes Pumuka's Pa and an urupā. An inspection of proposed house sites and accessways identified one archaeological feature that had been modified by the existing driveway at 154 Te Raupo Road. This feature was added to the recorded site Q05/895 and will not be further modified by the proposed development.

There is a small possibility that subsurface archaeological remains or buried cultural deposits may still be encountered on the property during construction of the two dwellings and associated services and accessways or in the course of other ground disturbing activity on the property and if these are encountered an accidental discovery protocol should be followed and HNZPT and Geometria Ltd. should be contacted.

11.0 References Cited

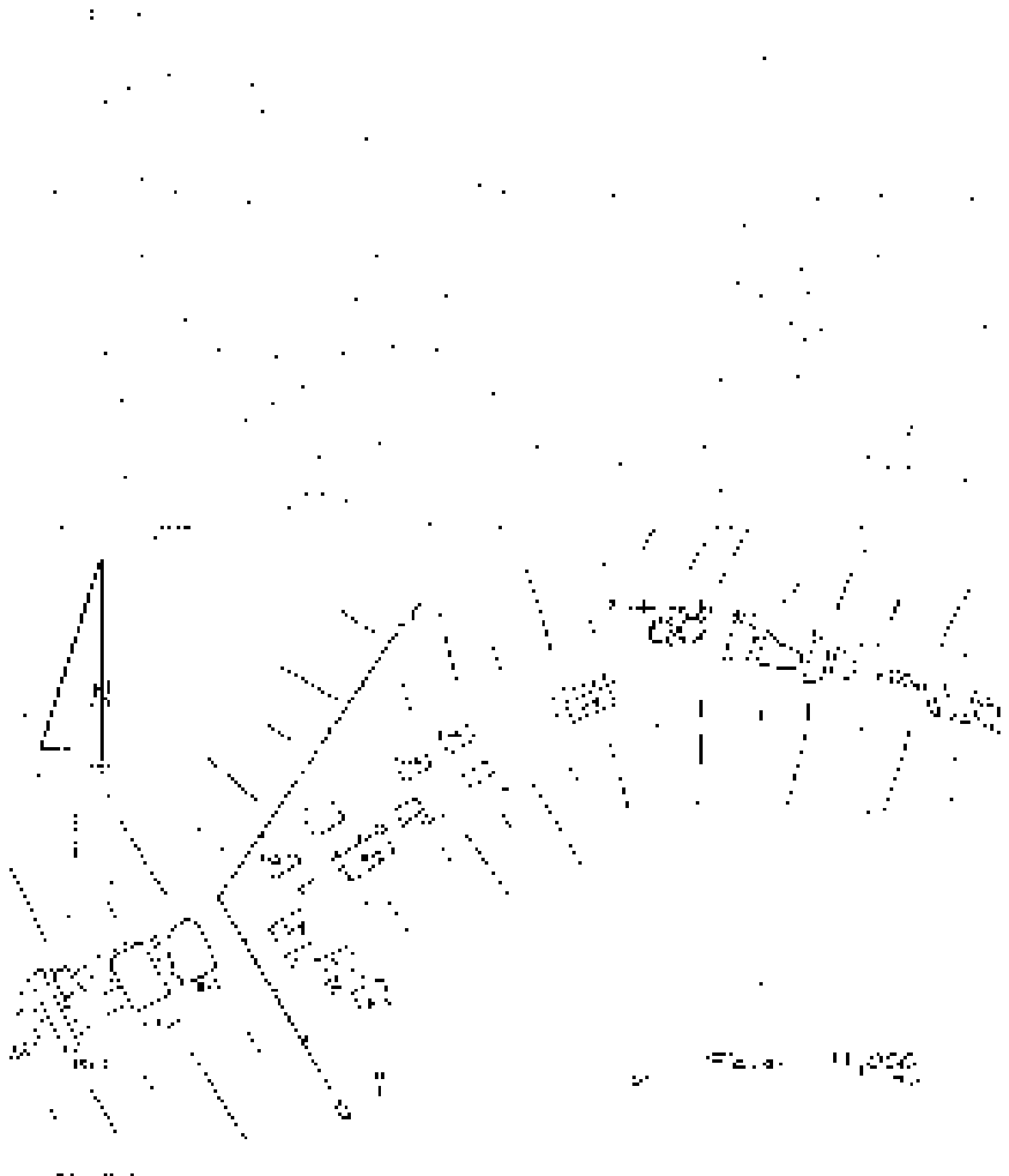
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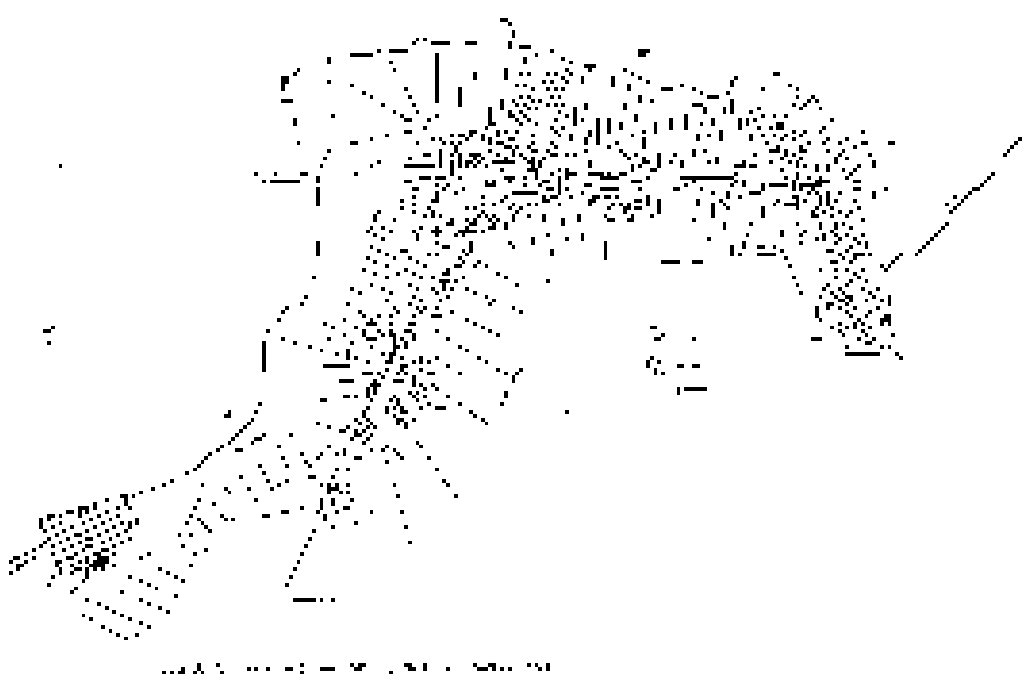
<p>SAFE RECORD FORM (VANS)</p> <p>DATE: _____</p> <p>TIME: _____</p> <p>LOCATION: _____</p>	<p>STATION: _____</p> <p>STORAGE: _____</p> <p>MARK: _____</p>
<p>1. Description of the work done</p> <p>_____</p>	
<p>2. Details of the work done</p> <p>_____</p>	
<p>3. Details of the work done</p> <p>_____</p>	
<p>4. Name of the person who did the work</p> <p>_____</p>	<p>5. Name of the person who checked the work</p> <p>_____</p>
<p>6. Remarks</p> <p>_____</p>	
<p>7. Remarks</p> <p>_____</p>	
<p>8. Remarks</p> <p>_____</p>	



NEW ZEALAND ARCHITECTURAL ASSOCIATION LTD SITE DESCRIPTION FORM		SITE NUMBER : 154/2/15
Site Name : Hira	Site No : 154/2/15	SITE NAME : HIRA
Site Area : 1410sqm	Site No : 154/2/15	DATE : 11/02/00
Site Owner : Mr & Mrs J. & M. ...	Site No : 154/2/15	SCALE : 1:1000
Site Address : 154 Te Raupo Road, Opua	Site No : 154/2/15	DATE : 11/02/00

This form is to be completed by the architect or other person responsible for the preparation of the site plan and is to be submitted to the Council with the application for a resource consent.





SUBDIVISION

RC 2240273, OFF TE RAUPO RD, OPUA



ASSESSMENT OF TRAFFIC EFFECTS

Prepared by Engineering Outcomes Ltd
10 December 2024

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1. THE PROPOSAL

This is a traffic report in relation to a proposed subdivision of Allotment 271 Parish of Kawakawa and Lot 1 LT 504018 of resource consent #2240273 on the peninsular between the Kawakawa and Whangae Rivers near Opuā, Northland.

The proposal is described in concept plans by Thomson Survey which are appended. It will result in an additional two titles, the access for both of which will lead to the existing shared vehicle access and then Te Raupo Road. More details of the access are given in section 3

2. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Overall, with the mitigation measures proposed and as summarised in Figures 1 and 2, it is concluded that the traffic effects of the proposal will be well managed such that the associated risks are well within acceptable limits and the traffic effects will be less than minor.

With those measures in place, Te Raupo Road between the site and Paihia Road/SH11, while narrower than the width specifications of the *Far North district plan*, will still be fit-for purpose even with the additional traffic generated by the proposal, which is estimated at fewer than 10 additional movements on an average day at full development.

In fact, the general widening of both Te Raupo Road and the access, even in conjunction with sealing, is likely to be counter-productive. Recent research into the influence of road width on the “social cost” of crashes when standardised by vehicle-kilometres travelled (“SSCC”), found that the SSCC on unsealed roads in the width range that includes Te Raupo Road and the access, is close to the lowest recorded on any width range for both sealed and unsealed roads.

Even with the subdivision, Te Raupo Road will also not carry an unusual level of traffic for an unsealed road of this width. In fact, with the work proposed, it will generally be superior to average roads in this width range that were considered in the cited study.

3. ACCESS AND THE EXISTING ROAD NETWORK

The subject site has legal access via a private access that connects to Te Raupo Road 1.7 kilometres from its connection to Paihia Road/SH11 at route position 0/7.05 kilometres.

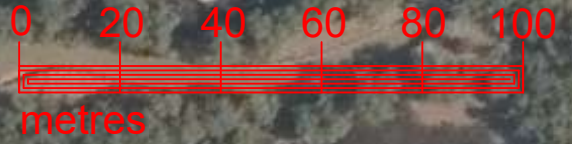
The private access traverses Section 4 Block XII Kawakawa SD and the parent lots/title and continues east of the parent lot to an existing dwelling on the easternmost lot on the peninsular - Lot 2 DP 62916. It is unsealed and almost entirely only a single effective lane. It crosses the Kawakawa-Opuā rail line, currently the Pou herenga tai coast-to-coast cycle trail, 440 metres east of Te Raupo Road (2.16 kilometres from SH11). The geometrics of the access are variable, with three sections steeper than 20% (1 vertically in 5 horizontally) and several locations with restricted forward visibility.

Measures are proposed on the access to address the steep gradients and locations with restricted forward visibility. Those are as described in Figure 1 and the key locations captured in the photos from page 5.

WJ5R Warning sign
"Intersection Ahead"
on Pahia Rd 180m
south of Te Raupo Rd



Figure 1



Scale 1:1500



Install advisory signs
at 20m (inbound)
300m and 650m
(both directions)



Existing
passing bay

Existing
passing bay

Te Raupo Road

SH11/Pahia Road

metres from SH11



PO Box 3048,
Onerahi
Whangarei 0142
Tel. 09 436 5534
info@e-outcomes.co.nz

Project
Subdivision
Te Raupo Road
Opua

Client
**Stephen
Mason**

Surveyed by
Thomson Survey

LINZ

Amendments

Council ref.

Scale 1: As shown

Date 10-Dec-2024 15:00:13



Scale 1:2000



Install advisory signs at
860m, 1200m (both directions),
1440m (inbound)
and 1680m (outbound)

Existing
passing bay

Existing
passing bay

Remove vegetation
(inside of bend)

Remove vegetation
(inside of bend)

Existing
passing bay

Remove
vegetation
(inside of bend)

Te Raupo Road

metres from SH11

Te Raupo Road

to

Te Raupo Road is unsealed and virtually level throughout, with an carriageway ranging from 2.8 to 3.5 metres wide. It is mostly on public land, but has not previously been maintained by the Far North district council¹ and, according to data from LINZ², some is on private land. There are no side roads between the site and Paihia Road/SH11, but nine dwellings lead to the road, one of which is on the subject site³.

Not being a public road, there is no speed limit on Te Raupo Road. The speed limit on Paihia Road/SH11, through Te Raupo Road, is 80 km/hr, so that is also likely to be the speed limit on the short section of Te Raupo Road that the council will manage in future.

The Paihia Road/SH11/Te Raupo Road intersection is an uncontrolled tee intersection at which Te Raupo Road is on a relatively acute angle with Paihia Road/SH11. Paihia Road/SH11 is sealed with two lanes and there are no “turn treatments” at the intersection⁴.

Measures are proposed on Te Raupo Road to address the locations with restricted forward visibility, also four speed advisory signs and a warning sign to address a minor visibility restriction on the northeast-bound approach to the intersection. Those are as described in Figure 2.

The remainder of the road routes between the site and all common destinations, including, Paihia, Kerikeri, Kawakawa, Whangarei and Auckland, are sealed and of a standard that can easily cope with the relatively small level of additional traffic from this proposal.

¹ Although the council has recently completed a major upgrade of the bridge 170 metres from SH11 and, according to its traffic engineer Pravin Singh, will maintain the bridge and the 170 metres of road between it and SH11, in future.

² An ortho-rectified aerial photo and cadastral data.

³ Four others are in a papakainga managed by the Te Raupo Trust, the access for which leads to the eastern end of Te Raupo Road at the cycle trail/rail line. It is understood that the trust also claims to have legal access by way of the Pou Herenga Tai cycleway, but this is not certain and, in any event, there are strong indications that the current cycle trail will soon revert to an active rail line.

⁴ And neither will any be warranted even with the proposal at full development. The traffic on this part of SH11 will approach 300 movements per hour during holiday periods. According to AUSTROADS *Guide to Traffic Management Part 6* Fig 3.25(b), a right turn bay is warranted only with at least 20 right turns into Te Raupo Road during those hours, which is several times the expected rate of such turns.

Photo 1. The intersection of Te Raupo Road (right) and Paihia Road/SH11 (left) looking south.



Photo 2. Looking north along Te Raupo Road from 420 metres towards an existing passing bay at left and the driveway to an existing residence.



Photo 3. Another existing passing bay on Te Raupo Road.



Photo 4. Looking east along Te Raupo Road from 620 metres and another existing passing bay.



Photo 5. Looking east along Te Raupo Road from 800 metres and another existing passing bay.



Photo 6. Looking east along Te Raupo Road from 900 metres. Vegetation removal is proposed on the inside of this bend. According to LINZ, this part of the road is on private land.



Photo 7. Looking northeast along Te Raupo Road from 1230 metres and another existing passing bay.



Photo 8. Looking northeast along Te Raupo Road from 1640 metres. Vegetation removal is proposed on the inside of this bend.



Photo 9. Looking east along Te Raupo Road from 1680 metres; another existing passing bay and the start of the shared access (on the rise). Stabilisation of the access pavement is proposed where the gradient is steeper than 20%, which occurs in some of this section (on both sides of this hill and on for a short distance east of the cycle trail (see photo 16).



Photo 10. Looking east along the shared access from 1870m. An existing passing bay.



Photo 11. Looking east along the shared access from 1910m. An overgrown existing passing bay.



Photo 12. Looking east along the shared access from 1980m. Passing bay proposed.



Photo 13. Looking southeast along the shared access towards the cycle trail/rail crossing.



Photo 14. Looking northwest along the shared access and across the cycle trail/rail crossing. The original trail runs from left to right, but the section at left, which leads to tunnel, has been bypassed by a temporary trail, part of which is visible at right. As such, until the tunnel is re-opened, there is no conflict with cyclists at this crossing.



Photo 15. Looking southeast along the shared access from 2190 metres. Vegetation removal is proposed on the inside of this bend.



Photo 16. Looking southeast along the shared access from 2240 metres. A passing bay (on the outside), vegetation removal (inside) are proposed on this bend. Pavement stabilisation is proposed where the gradient is steeper than 20%.



Photo 17. Looking east along the shared access from 2400 metres. A passing bay is proposed on this bend.



Photo 18. Looking east along the shared access from 2440 metres. Vegetation removal is proposed on the inside of this bend.



Photo 19. Looking east along the shared access from 2490 metres. Vegetation removal is proposed on the inside of this bend.



Photo 20. Looking northeast along the shared access from 2580 metres. A passing bay is proposed over this crest. The connection point for the driveway for Lot 1 is at left (overgrown at present).



Photo 21. Looking east along the shared access from 2660 metres. A passing bay is proposed on this bend. The driveway at right is to the existing dwelling on Lot 3. The access continues beyond the bank at left towards Lot 2 and two existing lots, one of which currently has a dwelling on it.



Photo 22. Looking northeast along the shared access from 2750 metres. Vegetation removal is proposed on the inside of this bend.



Photo 22. Looking northeast along the shared access (right) from 2840 metres and the connection point and driveway route for Lot 2.



4. COUNCIL STANDARDS

Te Raupo Road currently leads to only nine dwellings and there is another vacant title in its catchment. The shared access leads to an existing dwelling on a large lot that also fronts part of Te Raupo Road, plus the parent title and two other titles.

The council's width standards for rural public roads are given in Table 3.1A and clause 3.4.3 of its *Engineering Standards and Guidelines* document (2009, which is part of the district plan). For rural roads leading to more than 5 household equivalents, those specify a sealed carriageway 6.0 metres wide and a legal corridor width of 20 metres.

The width standards for private access are given in the *Far North district plan*, Appendix 3B-1. For roadways in the General Coastal zone leading to between 5 and 8 household equivalents, those specify a carriageway 5.0 metres wide and a legal corridor width of 7.5 metres, plus the sealing of sections steeper than 20%.

Neither footpaths nor lighting are specified for rural roads or private access.

5. TRAFFIC

All vehicle movements are one-way movements whether an entry or exit or a movement in one direction along public roads.

5.1 Traffic generation and on public roads

The traffic intensity of the proposal, when calculated in accordance with the *Far North district plan* Appendix 3A, is 30 movements per day, or 20 additional movements. Based on analysis of other localities this far from urban centres⁵, the actual traffic generation is estimated to be closer to 12 movements per day or 8 additional movements. That is, fewer than one additional movement every two hours in each direction.

5.2 Crashes

The *CAS* database of crashes reported to the Police has been searched on the first section of Te Raupo Road, including its intersection with Paihia Road, since the start of 2019. No crashes have been reported.

6. ASSESSMENT OF TRAFFIC EFFECTS AND PROPOSED MITIGATION MEASURES

The focus of this section is the carriageway width of both Te Raupo Road and the shared access. No crashes have been reported at the intersection with Paihia Road since at least the start of 2019 and any improvements will be extremely expensive, cannot be justified and are certainly not warranted.

6.1 Width of Te Raupo Road and the shared access

Recent peer-reviewed research⁶ into the influence of road width on harm, which included unsealed roads across all of the Northland region, determined the standardised “social cost⁷” of crashes across width ranges that include the width range of Te Raupo Road⁸, and a crash search covering a very recent 5 calendar year period – 2018 to 2022.

⁵ Including actual counts at Purerua in late 2021.

⁶ Dean Scanlen (June 2024): How is Road Width Related to Harm? Presented to the ENZ Transportation Group conference in June 2024. With unsealed roads, the rate of harm increases steadily and significantly with increasing width. On sealed roads significantly wider than Te Raupo Road, the rate of harm is also higher.

⁷ As given in the *Monetised benefits and costs manual* version 1.6 Tables A32 to A34, then standardised by vehicle kilometres travelled. Social cost is the best-known representation of the harm caused by road crashes and trauma.

⁸ Less than 4.4 metres wide.

This found that:

- unsealed roads with only a single effective lane have the lowest SSCC of any unsealed roads; and
- upgrading to the full council standard, including sealing, would have a higher SSCC than that of the existing road.

The research did not investigate the reasons for this effect, but it is very likely a result of the higher vehicle speeds that wider roadways both enable and encourage.

The carriageway width of both Te Raupo Road and the access are strictly already well below those specified in the *Far North district plan*. Despite this, and particularly with the proposed mitigation, the cited research shows that the risks associated with the existing roadways are no higher than those for wider roads, in fact very likely lower.

Pravin Singh, Far North district council traffic engineer, has expressed his support for the work proposed on Te Raupo Road as described in Figure 1 and photos 1 to 9⁹.

6.2 Other Matters

There is a minor sight distance restriction south of the intersection of Te Raupo Road with Paihia. The available sight distance is 108 metres, which exceeds the safe-stopping sight distance standard for an operating speed of 65 km/hr¹⁰, but does not achieve the higher safe-intersection sight distance standard.

The proposed warning sign, as shown in Figure 1, is considered adequate mitigation of this.

7. FAR NORTH DISTRICT PLAN – ASSESSMENT CRITERIA

There are three sets of criteria in the plan relevant to traffic management and access. Only the Property Access criteria in Section 15.1.6C.4.1 are relevant.

Criterion (a) Adequacy of sight distances...

The mitigation addresses most of the locations with sight distance restrictions.

Criterion (b) Any current traffic safety or congestion problems in the area.

There are no known safety or congestion problems in the area. The mitigation addresses the locations in which safety issues are most likely to arise.

Criterion (c): Any foreseeable future changes in traffic patterns in the area.

No significant projects or road links are planned that might significantly change the patterns of traffic in this vicinity.

Criterion (d): Possible measures or restrictions on vehicle movements in and out of the access.

With the relatively light traffic and sparse existing development in the locality, there is no need for restrictions on vehicle movements.

⁹ In an email dated 6 December 2024.

¹⁰ The bend in that location is signposted at 55 km/hr.

Criterion (e): The adequacy of the engineering standards proposed and the ease of access to and from, and within, the site.

Neither Te Raupo Road nor the internal access meets the council's standards but with the proposed mitigation and for the reasons given in section 6, the access is concluded to be adequate and fit-for purpose even with the additional lots.

Criterion (f): The provision of access for all persons and vehicles likely to need access to the site, including pedestrian, cycle, disabled, vehicular.

The proposed connection arrangement will ensure adequate access to all lots for all transport modes. Pedestrian traffic is not expected and cyclists will be able to enter the site safely by way of the access and vehicle crossing connection.

Criterion (g): The provision made to mitigate the effects of stormwater runoff, and any impact of roading and access on waterways, ecosystems, drainage patterns or the amenities of adjoining properties.

None of the work on the access will increase any natural hazards compared with the consented subdivision.

Criterion (h) relates to sites with a road frontage on Kerikeri Road so is not relevant.

Criterion (i) The provisions of the roading hierarchy, and any development plans of the roading network.

No significant projects or road links are planned that might significantly change the patterns of traffic in this vicinity.

Criterion (j) relates to alternative access for car parking and vehicle loading in business zones and is not relevant.

Criterion (k) Any need to require provision to be made in a subdivision for the vesting of reserves for the purpose of facilitating connections to future roading extensions to serve surrounding land; future connection of pedestrian accessways from street to street; future provision of service lanes; or planned road links that may need to pass through the subdivision; and the practicality of creating such easements at the time of subdivision application in order to facilitate later development, so is not relevant.

Also Criterion (l) Enter into agreements that will enable the Council to require the future owners to form and vest roads when other land becomes available (consent notices shall be registered on such Certificates of Title pursuant to Rule 13.6.7).

There is nothing to be gained by facilitating access to areas outside the site using the mechanisms described. The site is bounded by the Waitangi River and private lane. Also, this amendment does not alter the location of the, already consented, access and road.

Criterion (m) With respect to access to a State Highway that is a Limited Access Road, the effects on the safety and/or efficiency on any State Highway and its connection to the local road network and the provision of written approval from the New Zealand Transport Agency.

The proposed warning sign addresses the minor visibility restriction south of the intersection with Paihia Road/SH11.



NOTICE OF WRITTEN APPROVAL

Written Approval of Affected Parties in accordance with Section 95E of the Resource Management Act

PART A – To be completed by Applicant

Applicant/s Name:	Sielia Limited
Address of proposed activity:	154 Te Raupo Road
Legal description:	Lot 1 DP 604018 and Allotment 271 Parish of Kawakawa
Description of the proposal (including why you need resource consent):	Proposed 3 x Lot Subdivision - Non-Complying Activity
Details of the application are given in the attached documents & plans (list what documents & plans have been provided to the party being asked to provide written approval):	<ol style="list-style-type: none"> 1. <u>Scheme Plan - Dated 11.07.2024. Ref 9112</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____

Notes to Applicant:

1. Written approval must be obtained from all registered owners and occupiers.
2. The **original copy** of this signed form and **signed plans and accompanying documents** must be supplied to the Far North District Council.
3. The amount and type of information provided to the party from whom you seek written approval should be sufficient to give them a full understanding of your proposal, its effects and why resource consent is needed.

[Handwritten signatures]

PART B – To be completed by Parties giving approval

Notes to the party giving written approval:

1. If the owner and the occupier of your property are different people then separate written approvals are required from each.
2. You should only sign in the place provided on this form and accompanying plans and documents if you **fully understand** the proposal and if you **support** or have **no opposition** to the proposal. Council will not accept conditional approvals. If you have conditions on your approval, these should be discussed and resolved with the applicant directly.
3. Please note that when you give your written approval to an application, council cannot take into consideration any actual or potential effects of the proposed activity on you unless you formally withdraw your written approval **before** a decision has been made as to whether the application is to be notified or not. After that time you can no longer withdraw your written approval.
4. Please sign and date all associated plans and documentation as referenced overleaf and return with this form.
5. If you have any concerns about giving your written approval or need help understanding this process, please feel free to contact the duty planner on 0800 920 029 or (09) 401 5200.

Full name/s of party giving approval:

Russell Wilfred Brunton / Cathy Lynn Jones

Address of affected property including legal description

158 Te Raupo Road - Allotment 192 PSH of Kawakawa - LOT 2 DP 62916

Contact Phone Number/s and email address

Daytime: 0274062202

email: Brunton55.RB@gmail.com

I am/we are the OWNER(S) / OCCUPIER(S) of the property (circle which is applicable)

Please note: in most instances the approval of all the legal owners and the occupiers of the affected property will be necessary.

1. I/We have been provided with the details concerning the application submitted to Council and understand the proposal and aspects of non-compliance with the Operative District Plan.
2. I/We have signed each page of the plans and documentation in respect of this proposal (these need to accompany this form).
3. I/We understand and accept that once I/we give my/our approval the Consent Authority (Council) cannot take account of any actual or potential effect of the activity and/or proposal upon me/us when considering the application and the fact that any such effect may occur shall not be relevant grounds upon which the Consent Authority may refuse to grant the application.
4. I/We understand that at any time before the notification decision is made on the application, I/we may give notice in writing to Council that this approval is withdrawn.

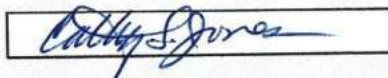
Signature



Date

12-12-2024

Signature



Date

12-12-2024

Signature

Date

Signature

Date

Approved: *Paul Smith* *Ruthy G. Jones*



EXISTING EASEMENTS		
PURPOSE	SHOWN	SERVIENT TENEMENT / CREATED BY
RIGHT OF WAY	(A) (B)	LOT 3 HEREON / E.I. 12055652.3
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(C)	LOT 2 HEREON / RC2240273 (LOT 2 DP 62916)
RIGHT OF WAY	(D)	LOT 5 HEREON / RC2240273 (LOT 2 LT 604018)

MEMORANDUM OF EASEMENTS		
PURPOSE	SHOWN	SERVIENT TENEMENT / DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS & ELECTRICITY	(A) (B)	LOT 3 HEREON / LOTS 1 & 2 HEREON

THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF THOMSON SURVEY LTD AND MAY NOT BE REPRODUCED WITHOUT THE WRITTEN PERMISSION OF THOMSON SURVEY LTD. AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY. TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY.

Local Authority: Far North District Council
 Completed in: TITLE REF AWAITING
 Completion of RC 2240273
 Total Area: 21.2147Ha



This plan and accompanying report(s) have been prepared for the purpose of obtaining a Resource Consent only and for no other purpose. Use of this plan and/or information on it for any other purpose is at the user's risk.

THOMSON SURVEY
 315 Kerikeri Rd
 P.O. Box 372 Kerikeri
 Email: kerikeri@tsurvey.co.nz
 Ph: (09) 4077360
 www.tsurvey.co.nz

**PROPOSED SUBDIVISION OF ALLOTMENT 271
 PSH OF KAWAKAWA & LOT 1 LT 604018 (RC 2240273)**
 154 TE RAUPO ROAD, OPUA

Survey	Name	Date	ORIGINAL SCALE	SHEET SIZE
Design	KY	11.07.24	1:3000	A3
Approved				
Rev				

Surveyors Ref. No: **9112**
 Sheet 1 of 1

Registered Land Surveyors, Planners & Land Development Consultants

PREPARED FOR: S. MASON

NOTICE OF WRITTEN APPROVAL

Written Approval of Affected Parties in accordance with Section 95E of the Resource Management Act

PART A – To be completed by Applicant

Applicant/s Name:	Sielia Limited
Address of proposed activity:	154 Te Raupo Road
Legal description:	Lot 1 DP 604018 and Allotment 271 Parish of Kawakawa
Description of the proposal (including why you need resource consent):	Proposed 3 x Lot Subdivision - Non-Complying Activity
Details of the application are given in the attached documents & plans (list what documents & plans have been provided to the party being asked to provide written approval):	<ol style="list-style-type: none">1. <u>Scheme Plan - Dated 11.07.2024. Ref 9112</u>2. _____3. _____4. _____5. _____6. _____

Notes to Applicant:

1. Written approval must be obtained from all registered owners and occupiers.
2. The **original copy** of this signed form and **signed plans and accompanying documents** must be supplied to the Far North District Council.
3. The amount and type of information provided to the party from whom you seek written approval should be sufficient to give them a full understanding of your proposal, its effects and why resource consent is needed.

PART B – To be completed by Parties giving approval

Notes to the party giving written approval:

1. If the owner and the occupier of your property are different people then separate written approvals are required from each.
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4. Please sign and date all associated plans and documentation as referenced overleaf and return with this form.
5. If you have any concerns about giving your written approval or need help understanding this process, please feel free to contact the duty planner on 0800 920 029 or (09) 401 5200.

Full name/s of party giving approval:

Address of affected property including legal description

Contact Phone Number/s and email address

Daytime:

email:

I am/we are the OWNER(S) / OCCUPIER(S) of the property (circle which is applicable)

*Please note: in most instances the approval of **all** the legal owners and the occupiers of the affected property will be necessary.*

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3. I/We understand and accept that once I/we give my/our approval the Consent Authority (Council) cannot take account of any actual or potential effect of the activity and/or proposal upon me/us when considering the application and the fact that any such effect may occur shall not be relevant grounds upon which the Consent Authority may refuse to grant the application.
4. I/We understand that at any time before the notification decision is made on the application, I/we may give notice in writing to Council that this approval is withdrawn.

Signature

Date

Signature

Date

Signature

Date

Signature

Date



EXISTING EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT OF WAY	(A) (B)	LOT 3 HEREON	E.I. 12055652.3
RIGHT OF WAY, TELECOMMUNICATIONS, ELECTRICITY & WATER SUPPLY	(C)	LOT 2 HEREON	RC2240273 (LOT 2 DP 62916)
RIGHT OF WAY	(D)	LOT 5 HEREON	RC2240273 (LOT 2 LT 604018)

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNICATIONS & ELECTRICITY	(A) (B)	LOT 3 HEREON	LOTS 1 & 2 HEREON

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AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council

Comprised in: TITLE REF AWAITING COMPLETION OF RC 2240273

Total Area: 21.2147Ha

This plan and accompanying report(s) have been prepared for the purpose of obtaining a Resource Consent only and for no other purpose. Use of this plan and/or information on it for any other purpose is at the user's risk.



Bar Scale 1:3000 @ A3

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 Ph: (09) 4077360
 www.tsurvey.co.nz

Registered Land Surveyors, Planners & Land Development Consultants

**PROPOSED SUBDIVISION OF ALLOTMENT 271
 PSH OF KAWAKAWA & LOT 1 LT 604018 (RC 2240273)
 154 TE RAUPO ROAD, OPUA**

PREPARED FOR: S. MASON

Name	Date	ORIGINAL	SHEET SIZE
Survey		SCALE 1:3000	A3
Design			
Drawn	KY 11.07.24		
Approved			
Rev			
9112 Scheme 20240711			

Surveyors Ref. No:

9112

Sheet 1 of 1



NOTICE OF WRITTEN APPROVAL

Written Approval of Affected Parties in accordance with Section 95E of the Resource Management Act

PART A – To be completed by Applicant

Applicant's Name:	Stella Limited
Address of proposed activity:	124 To Hauko Road
Legal description:	Lot 1 DP 6248118 and Allment 271 Parish of Kawakawa
Description of the proposal (including why you need resource consent):	Proposed 3 x L.O. Subdivision Non Commercial Activity
Details of the application are given in the attached documents & plans (list what documents & plans have been provided to the party being asked to provide written approval):	<ul style="list-style-type: none"> 1. <u>Subdivision Plan - Dated 11.07.2024. Ref 9112</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____

Notes to Applicant:

1. Written approval must be obtained from all registered owners and occupants.
2. The original copy of this request form and signed plans and accompanying documents must be supplied to the Far North District Council.
3. The amount and type of information provided to the party from whom you seek written approval should be sufficient to give them a full understanding of your proposal, its effects and why resource consent is needed.

PART B To be completed by Parties giving approval

Notes to the party giving written approval:

1. If the owner and the occupier of your property are different people then separate written approvals are required from each.
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3. Please sign and date all associated plans and documentation as indicated marked and return with this form.
4. If you have any concerns about giving your written approval or need help understanding this process please feel free to contact the duty planner on 0800 320 329 or (08) 401 5700.

Full name(s) of party giving approval:

MARY ROSE WHITE

Address of affected property including legal description:

7c, Rungwa Rd
SEC 4 BLK X11 KAWIKAWA SD

Contact Phone Numbers and Email address:

0274 441 111 email

I have read the District Council's Resource Management Act of the property (circle what is applicable):

Please note that in most instances the approval of all the legal owners and the occupiers of the affected property will be necessary.

1. I have been provided with the details concerning the application submitted to Council and understand the proposal and associated implications with the Resource Management Act.
2. I have reviewed each page of the plans and documentation in respect of this proposal. I have read to accompany this form.
3. I give understand and accept that once I give my written approval the Consent Authority (Council) cannot take account of any actual or potential effect of the activity and/or proposal upon a when considering the application and the fact that any such effect may occur and not be relevant grounds upon which the Consent Authority may refuse to grant the application.
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Signature

Date

Signature

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Date

Signature

Date

